ORDER NO.HAD8802038C9

Service Manual

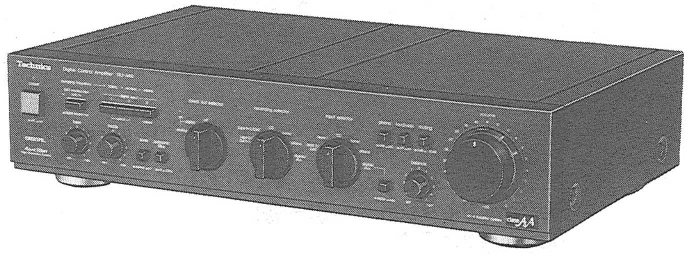
Amplifier

Digital Control Amplifier

SU-A60

Color

(K) ....Black Type



Area

Color	Area
(K)	(E) ....Continental Europe.
(K)	(EH) ....Holland.
(K)	(EB) ....Belgium.
(K)	(EF) ....France.
(K)	(EK) ....United Kingdom.
(K)	(EG) ...........F.R.Germany.
(K)	(Ei) ....Italy.
(K)	(XL) ....Australia.
(K)	(XA) ....Asia,Latin America, Middle Near East, Africa & Oceania.
(K)	(PA) ....Far East PX.
(K)	(PE) ....European Military.

SPECIFICATIONS (DIN 45 500)

■ PRE AMPLIFIER SECTION

Input sensitivity and impedance	
PHONO MM	2.5 mV/47 kΩ
PHONO MC	170 µV/220 Ω
TUNER,CD,AUX, **TAPE 1,TAPE 2 / DAT**	150 mV/18 kΩ
DIRECT	1 V/47 kΩ
Phono maximum input voltage (1 kHz,RMS)	
PHONO MM	170 mV
PHONO MC	13 mV
S/N	
rated power	(4Ω)
PHONO MM	79 dB (88 dB IHF, A)
PHONO MC	70 dB (72 dB, 250 µV, IHF, A)
TUNER,CD,AUX, **TAPE 1,TAPE 2 / DAT**	100 dB (106 dB IHF, A)
DIRECT	106 dB (115 dB IHF, A)
Frequency responce	
PHONO	RIAA standard curve ±0.2 dB (20 Hz ~ 20 kHz)
TUNER,CD,AUX, **TAPE 1,TAPE 2 / DAT**	0.8 Hz ~ 150 kHz (-3 dB) +0,-0.1 dB (20Hz ~ 20 kHz)
DIRECT	0.8Hz ~ 150kHz(-3 dB)
Tone controls	
BASS	50 Hz, +10 dB ~ -10 dB
TREBLE	20 kHz, +10 dB ~ -10 dB
Muting	-20 dB
Subsonic filter	19 Hz, -6 dB/oct
Loudness control (volume at -30 dB)	50 Hz, +9 dB
Channel balance,AUX 250 Hz ~ 6.3 kHz	±1 dB
Channel separation,AUX 1 kHz	55 dB
Harmonic distortion (20 Hz~20 kHz)	
PHONO MM	0.003%
PHONO MC	0.002%
TUNER,CD,AUX, **TAPE 1,TAPE 2 / DAT**	0.002%
DIRECT	0.0004%
Output voltage and impedance	
TAPE 1,TAPE 2 / DAT REC OUT	150 mV
OUTPUT	
rated	1 V/4 Ω
maximum	10 V

■ DIGITAL SECTION

Harmonic distortion	0.0015% (EIAJ)
Total harmonic distortion	0.0025% (EIAJ)
S/N	111 dB (EIAJ)
Dinamic range	99 dB (EIAJ)
Frequency responce	2 Hz ~ 20 kHz, +0.3 dB ~ -0.3 dB

■ GENERAL

Power consumption	20 W
Power supply	
For continental Europe	AC 50 Hz/60 Hz,220 V
For United Kingdom,Australia and others	AC 50 Hz/60 Hz, 110 V/127 V/220 V/240 V
Dimensions (W x H x D)	430 x 103 x 290 mm (16-15/16" x 4-1/16" x 11-6/16")
Weight	4.9 kg (10.78 lb.)

Notes:
1.Specifications are subject to change without notice.
Weight and dimensions are approximate.
2.Total harmonic distortion is measured by the digital spectrum analyzer (H.P. 3045 system).

Technics

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, CentraOsaka Japan

Panasonic Tokyo Office
Matsushita Electric Trading Co., Ltd.
6th Floor, World Trade Center Bldg.,
No. 4-1,Hamamatsu-cho 2-Chome,Minato-ku,
Tokyo 105,Japan

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■ BEFORE REPAIR AND ADJUSTMENT

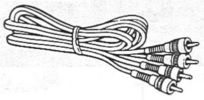
(1) Turn off the power supply. Using a 10Ω, 5 W resistor, shortcircuit both ends of power supply capacitors (C501, C502, 3300μF) in order to discharge the voltage.

(2) Before turning the power supply on, after completion of repair, slowly apply the primary voltage by using a power supply voltage controller to make sure that the consumed current at 50/60 Hz in NO SIGNAL mode should be shown below with respect to supply voltage 110 V/127 V/220 V/240 V.

Power supply voltage		AC 110 V	AC 127 V	AC 220 V	AC 240 V
Consumed current	50 Hz	60~130 mA	60~115 mA	30~65 mA	28~55 mA
	60 Hz	60~120 mA	55~105 mA	28~60 mA	28~53 mA

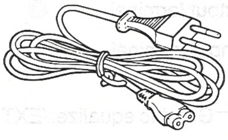
■ ACCESSORIES

- Stereo connection cable 1



(SJPD18) For all areas.

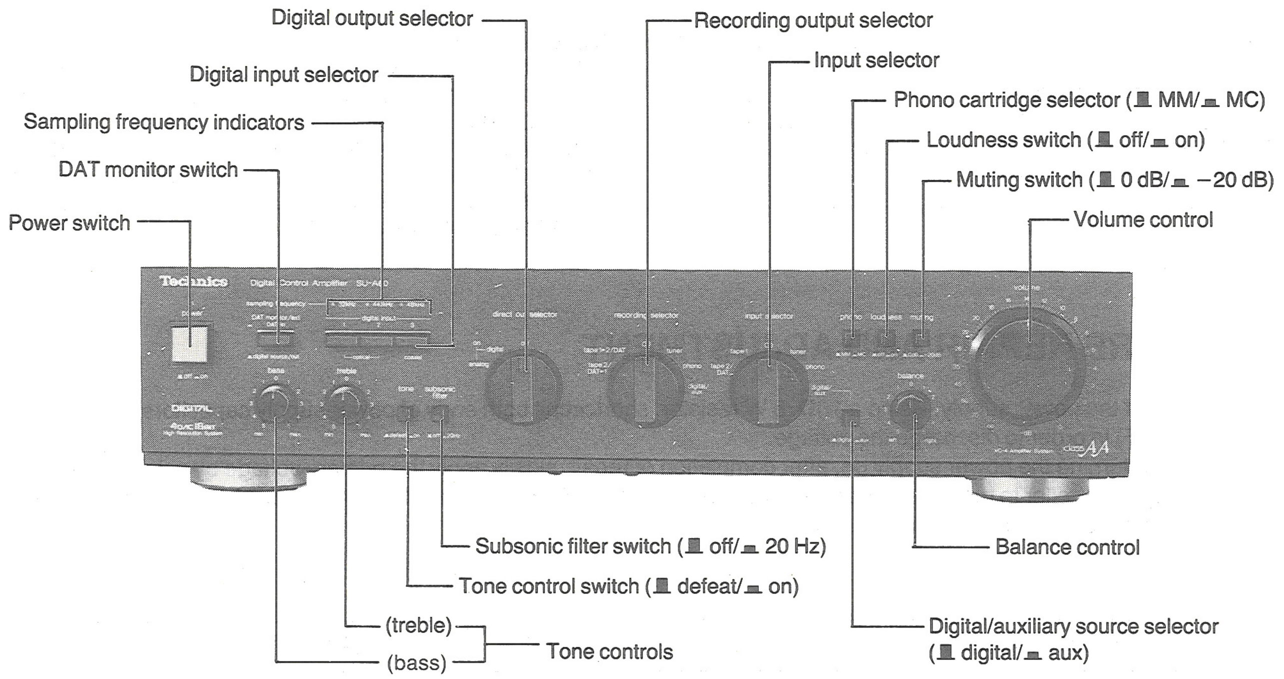
- AC power supply cord 1

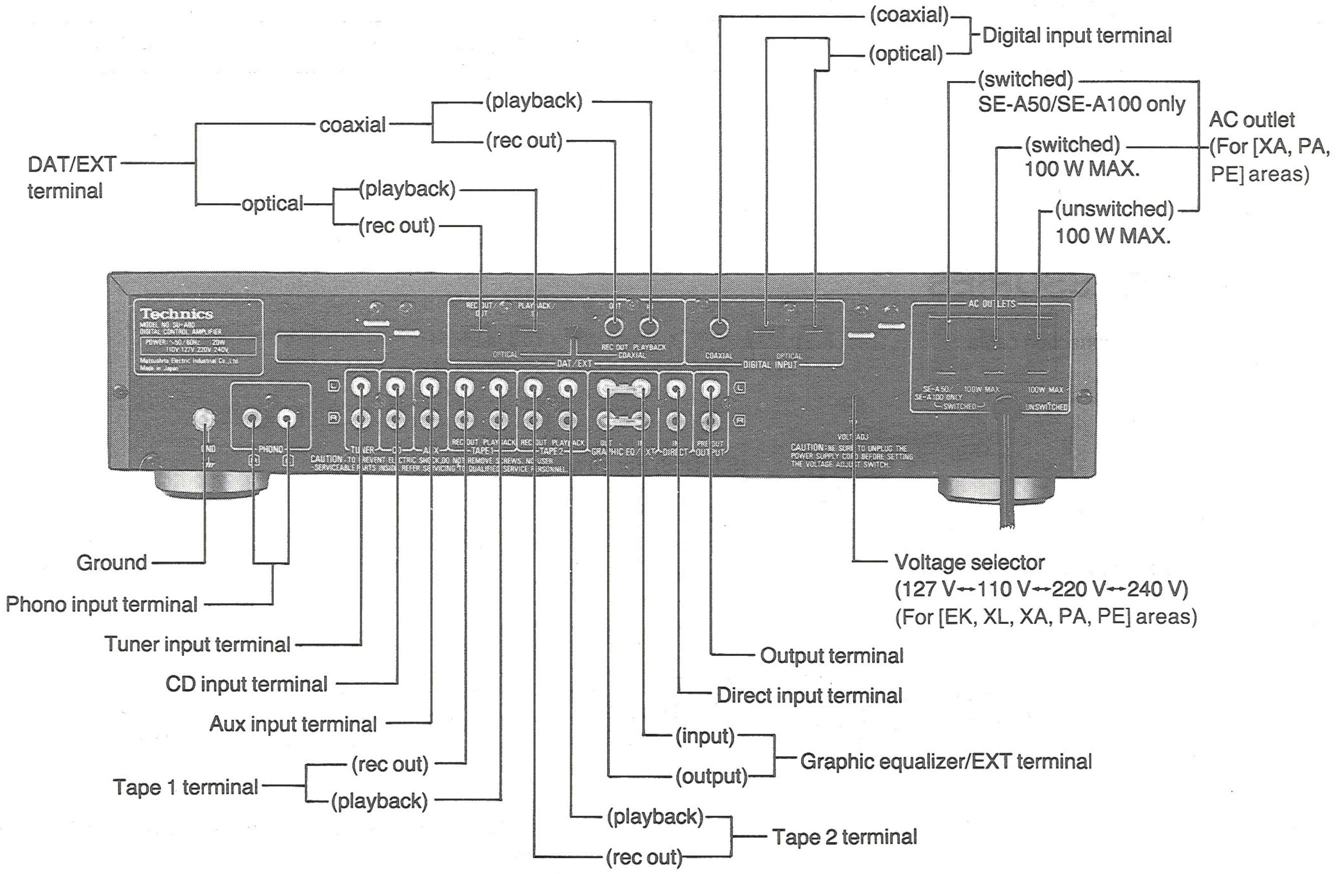


(SJA 173) .... For (XL) area.
(SFDAC05G02) .... For (EK) area.
(SFDAC05E03) .... For others.

For United Kingdom and some areas, the power cord is directly attached to the unit.
Configuration of AC power supply cord differs according to area.

■ LOCATION OF CONTROLS


Digital output selector
Digital input selector
Sampling frequency indicators
DAT monitor switch
Power switch
Recording output selector
Input selector
Phono cartridge selector (▮ MM/▬ MC)
Loudness switch (▮ off/▬ on)
Muting switch (▮ 0 dB/▬ −20 dB)
Volume control
Subsonic filter switch (▮ off/▬ 20 Hz)
Tone control switch (▮ defeat/▬ on)
(treble)
(bass)
Tone controls
Balance control
Digital/auxiliary source selector (▮ digital/▬ aux)
Technics


(coaxial)
(optical)
Digital input terminal
DAT/EXT terminal
coaxial
(playback)
(rec out)
optical
(playback)
(rec out)
(switched) SE-A50/SE-A100 only
(switched) 100 W MAX.
(unswitched) 100 W MAX.
AC outlet (For [XA, PA, PE] areas)
Ground
Phono input terminal
Tuner input terminal
CD input terminal
Aux input terminal
Tape 1 terminal
(rec out)
(playback)
Voltage selector (127 V↔110 V↔220 V↔240 V) (For [EK, XL, XA, PA, PE] areas)
Output terminal
Direct input terminal
(input)
(output)
Graphic equalizer/EXT terminal
(playback)
(rec out)
Tape 2 terminal
Technics

●The power supply for this unit varies depending upon the areas. Also, the parts used for power supply are different. So, refer to the circuit diagram and replacement parts list.

*[XA, PA and PE] areas are provided with AC outlets.

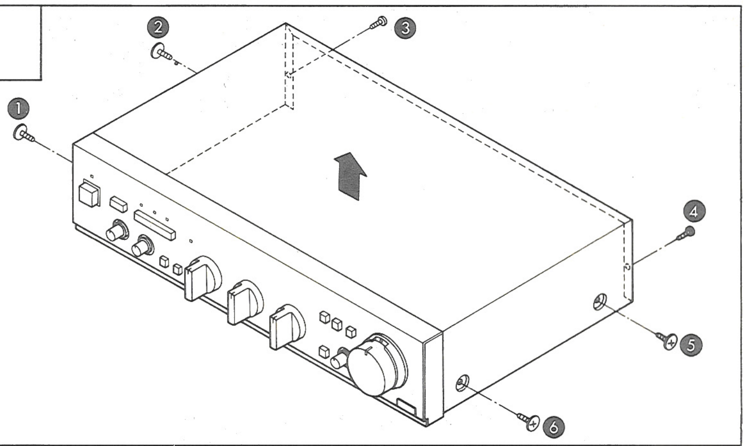
*220 V (50/60 Hz) for Continental Europe.

*110 V/127 V/ 220 V/240 V (50/60 Hz) for other [EK, XL, XA, PA and PE] areas.

*Phono input capacitance is about 100 pF.

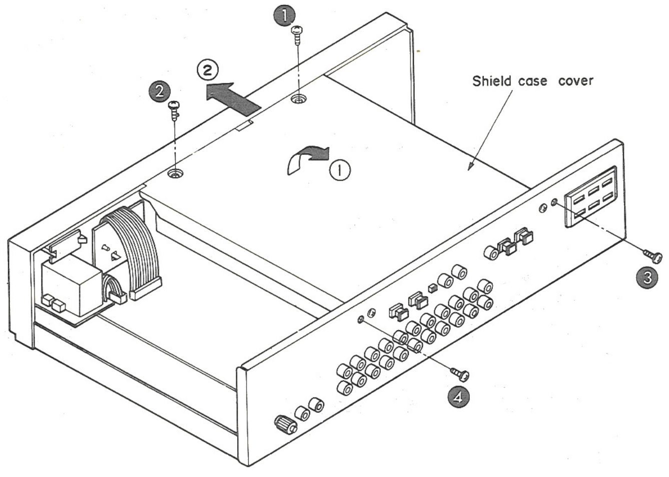
■ DISASSEMBLY INSTRUCTIONS

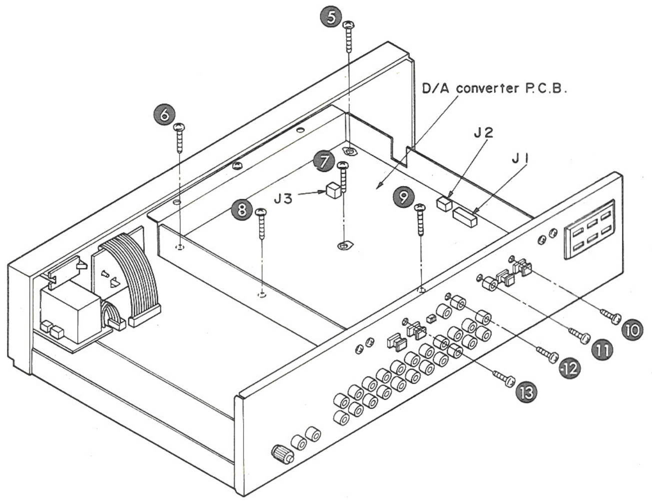
Ref. No. 1	How to remove the cabinet
Procedure 1	●Remove the 6 screws (❶~❻).



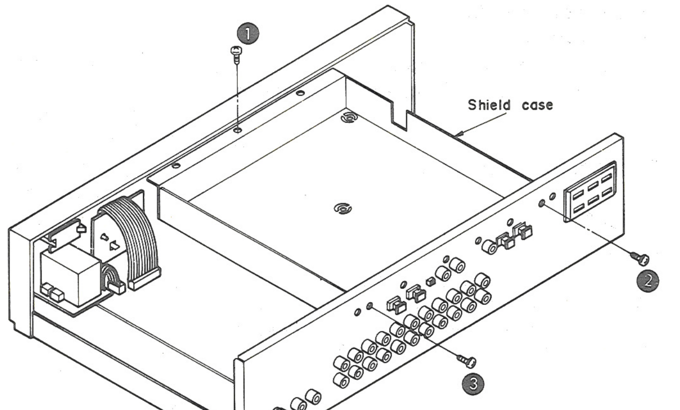
Ref. No. 2	How to remove the D/A converter P.C.B.
Procedure 1→2	

1. Remove the 4 screws (❶~❹).
2. Remove the shield case cover in the direction of the arrows.
3. Pull out the 3 connectors (J1, J2, J3).
4. Remove the 9 screws (❺~⓭).
5. Remove the D/A converter P.C.B.


Shield case cover
❶
❷
②
①
❸
❹

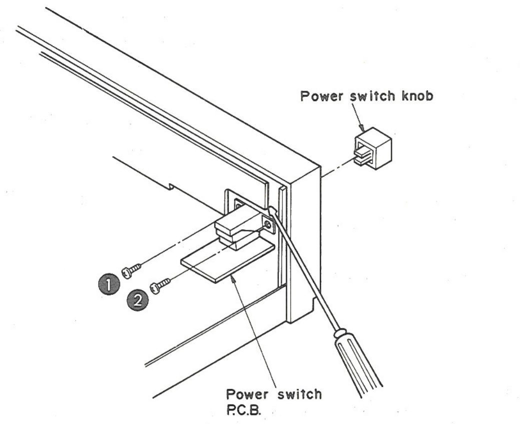

D/A converter P.C.B.
J2
J1
J3
❺
❻
❼
❽
❾
❿
⓫
⓬
⓭

Ref. No. 3	How to remove the shield case
Procedure 1→2→3	●Remove the 3 screws (❶~❸).

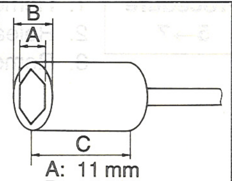

Shield case
❶
❷
❸

Ref. No. 4	How to remove the power switch P.C.B.
Procedure 1→4	

1. Remove the power switch knob by pushing it from behind the front panel.
2. Remove the 2 screws (❶, ❷).

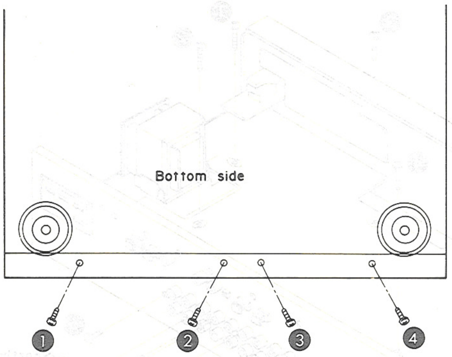

Power switch knob
Power switch P.C.B.
❶
❷

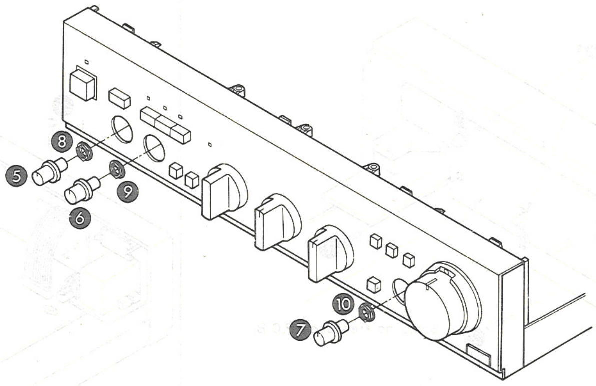
Ref. No. 5	How to remove the front panel
Procedure 1→2→3→5	1. Remove the 4 screws (①~④). 2. Pull out the 3 knobs (⑤~⑦). 3. Remove the 3 nuts (⑧~⑩). 4. Remove the flat cable (J4, J7, J8). 5. Remove the connector (J5, J6). 6. Remove the remote switch.

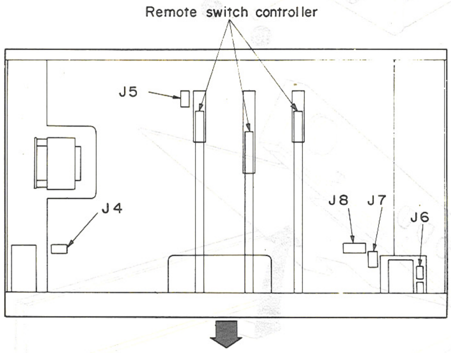


A: 11 mm
B: 16 mm
C: longer than 18 mm

- Use a wrench of the dimensions shown in the illustration above to remove nuts.

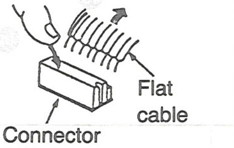

Bottom side
①
②
③
④




Remote switch controller
J5
J4
J8
J7
J6

How to remove the flat cable

Pull out the flat cable while pressing the connector.


Flat cable
Connector

How to remove the remote switch controller

- Pull up the remote switch controller in the direction of the arrow as shown in figure 1 and then remove it.

How to replace the remote switch controller

1. Push the switch contact (on remote switch S201, S203 or S202) in the direction of the arrow (see Fig. 2).
2. Rotate the selector knob counterclockwise.
3. Install the remote switch controller in the remote switch (see Figs. 2 and 3).

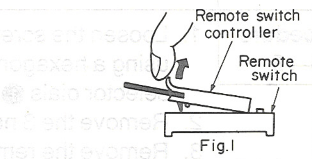

Remote switch controller
Remote switch

Fig.1

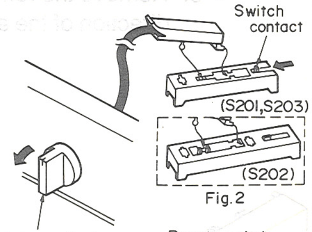

Switch contact
(S201,S203)
(S202)
Selector knob

Fig.2

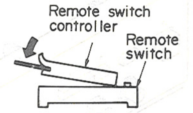
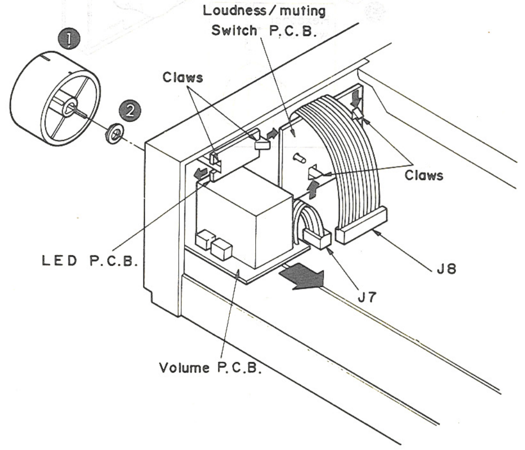
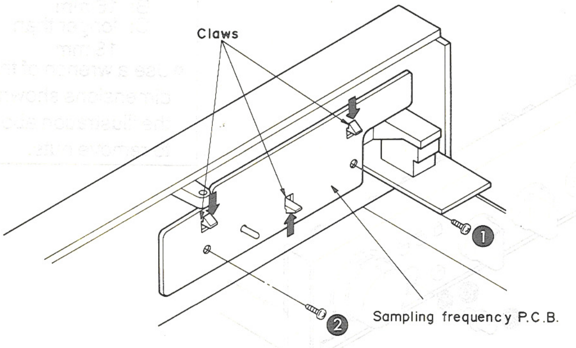

Remote switch controller
Remote switch

Fig.3

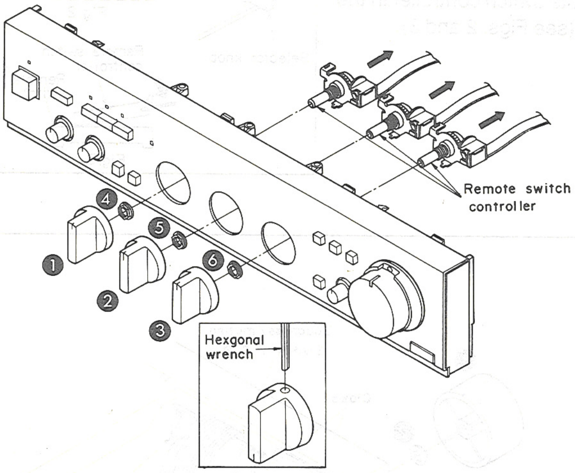
Ref. No. 6	How to remove the volume P.C.B., LED P.C.B. and loudness/muting switch P.C.B.
Procedure 1→6	1. Remove the flat cable (J7). 2. Pull out the knob (①). 3. Remove the nut (②). 4. Remove the volume P.C.B. 5. Release the 2 claws. 6. Remove the LED P.C.B. 7. Remove the flat cable (J8). 8. Release the 2 claws. 9. Remove the loudness/muting switch P.C.B.


Loudness/muting Switch P.C.B.
①
②
Claws
Claws
LED P.C.B.
J8
J7
Volume P.C.B.

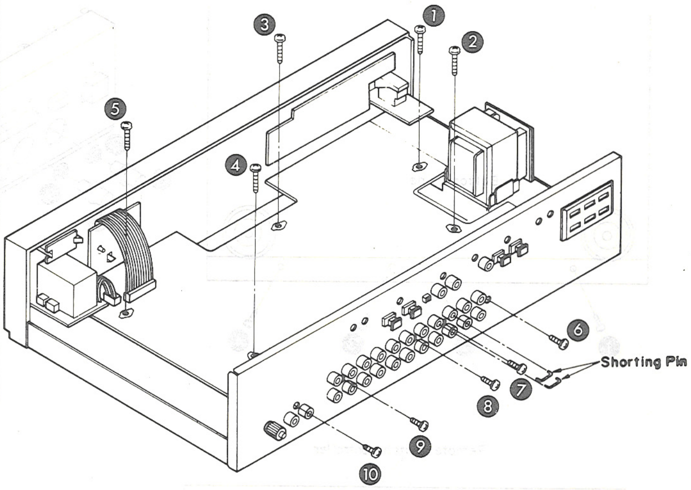
Ref. No. 7	How to remove the sampling frequency P.C.B.
Procedure 5→7	1. Remove the 2 screws (❶, ❷). 2. Release the 3 claws. 3. Remove the sampling frequency P.C.B.

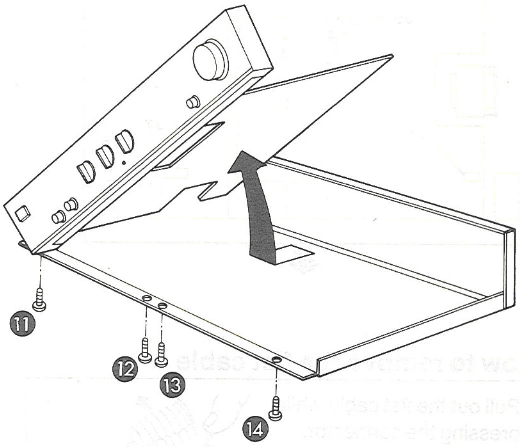

Claws
❶
❷
Sampling frequency P.C.B.

Ref. No. 8	How to remove the remote switch controller
Procedure 5→8	1. Loosen the screws set in the selector dials by using a hexagonal wrench and remove the 3 selector dials ❶~❸. 2. Remove the 3 nuts (❹~❻). 3. Remove the remote switch controller in the direction of the arrow.

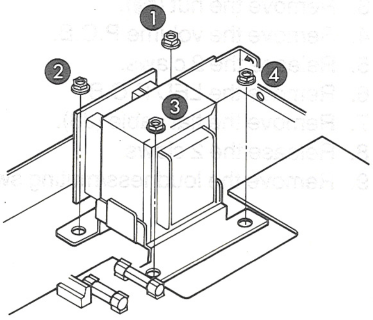

❶
❷
❸
❹
❺
❻
Remote switch controller
Hexgonal wrench

Ref. No. 9	How to remove the main P.C.B.
Procedure 1→2→3→9	1. Remove the 10 screws (❶~❿). 2. Remove the shorting pin. 3. Remove the 4 screws (⓫~⓮). 4. Remove the main P.C.B. in the direction of the arrow.

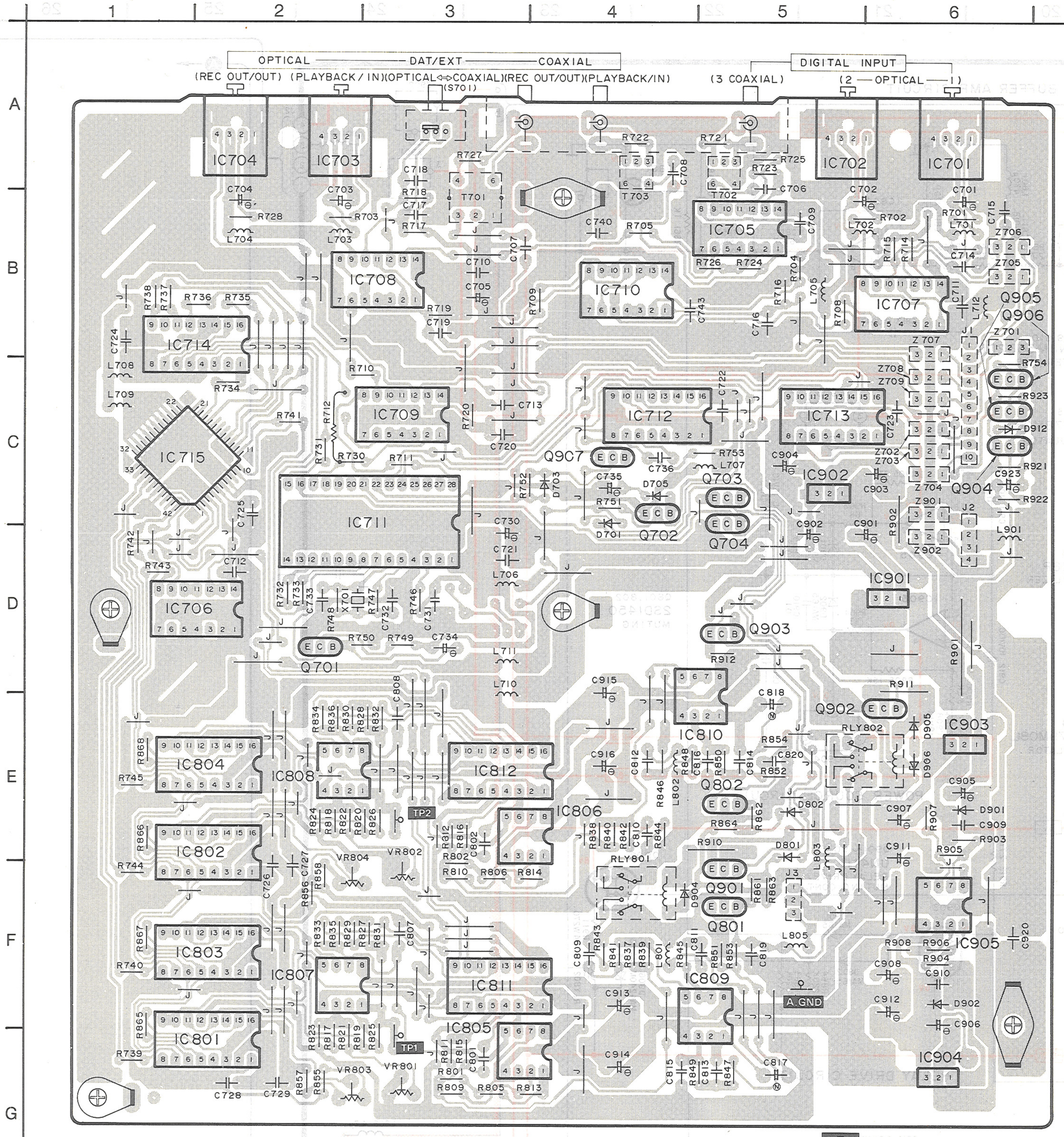

❶
❷
❸
❹
❺
❻
❼
❽
❾
❿
Shorting Pin



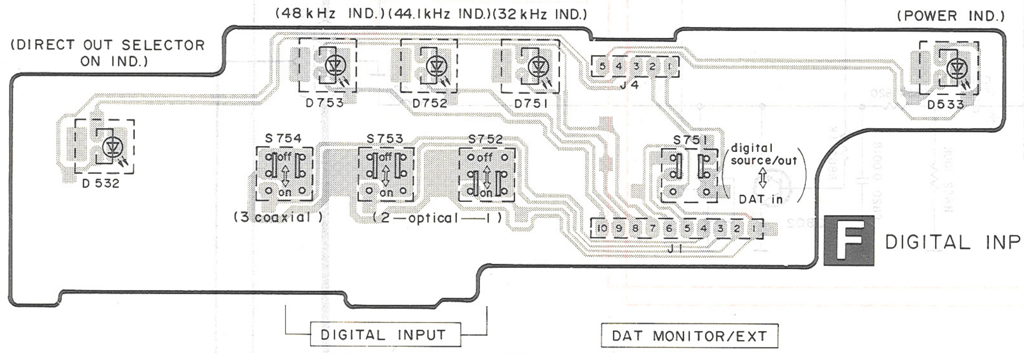
Ref. No. 10	How to remove the power transformer
Procedure 1→10	• Remove the 4 nuts (❶~❹).



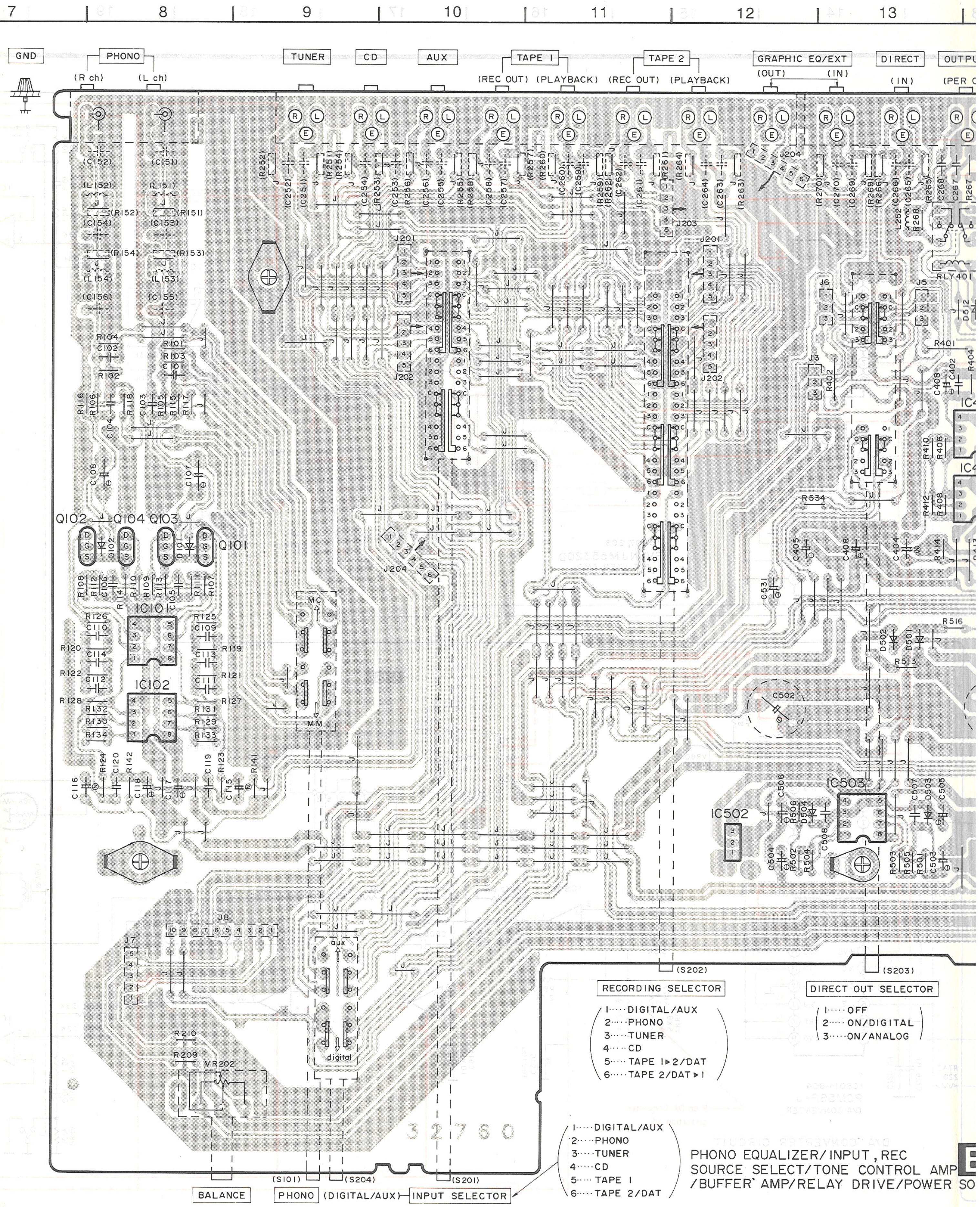
■ PRINTED CIRCUIT BOARDS


OPTICAL
DAT/EXT
COAXIAL
(REC OUT/OUT)
(PLAYBACK/IN)
(OPTICAL⇔COAXIAL)
(REC OUT/OUT)
(PLAYBACK/IN)
DIGITAL INPUT
(3 COAXIAL)
(2 — OPTICAL — 1)
IC704
IC703
IC702
IC701
IC705
IC707
IC708
IC710
IC714
IC709
IC712
IC713
IC715
IC711
IC706
IC902
IC901
IC903
IC904
IC905
IC804
IC808
IC812
IC806
IC810
IC802
IC803
IC807
IC811
IC809
IC801
IC805
TP1
TP2
A GND
A B C D E F G

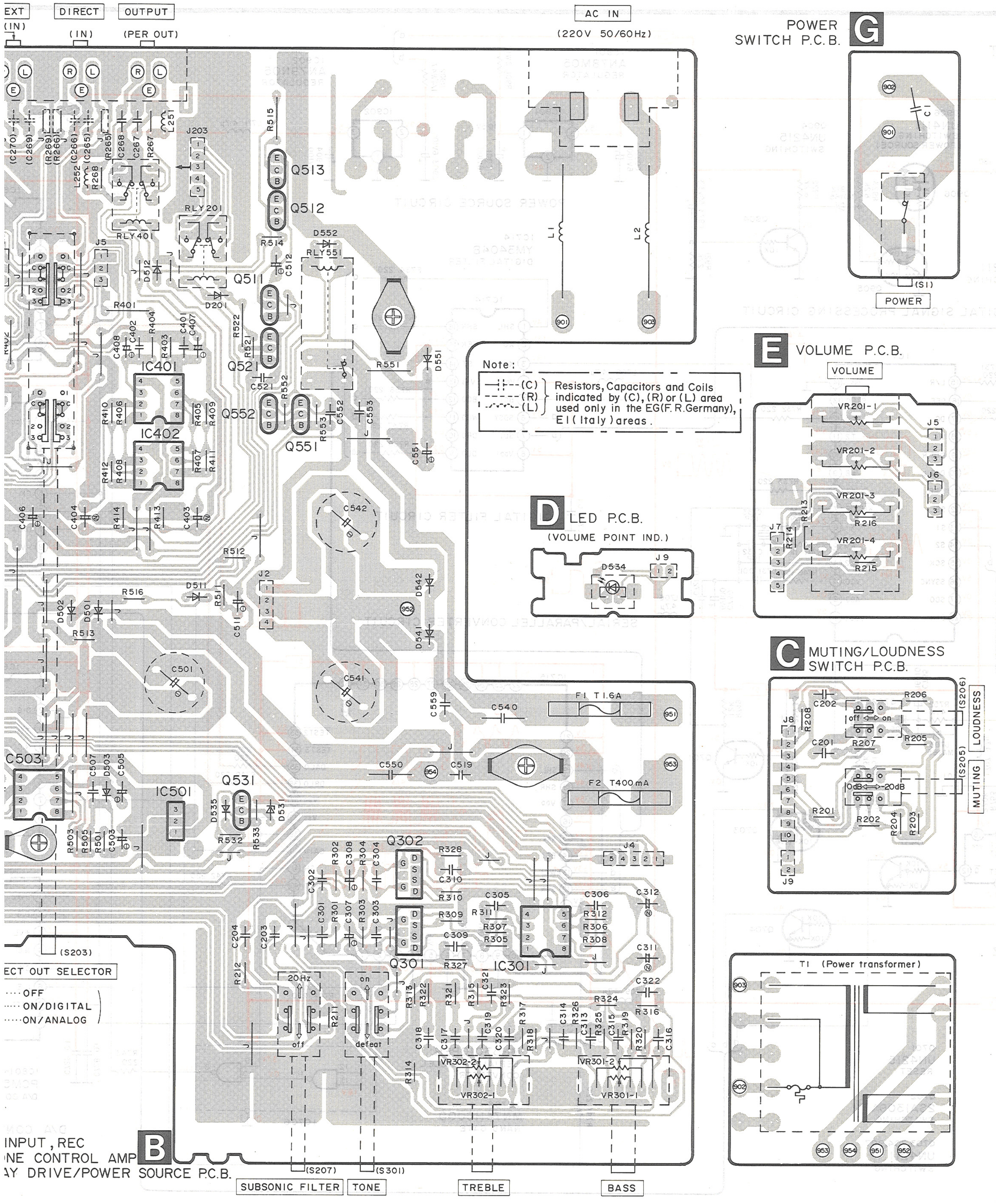
A D/A CONVERTER P.C.B.


(48 kHz IND.)(44.1kHz IND.)(32 kHz IND.)
(POWER IND.)
(DIRECT OUT SELECTOR ON IND.)
D753
D752
D751
D533
D532
S754
S753
S752
S751
digital source/out
DAT in
(3 coaxial)
(2 — optical — 1)
DIGITAL INPUT
DAT MONITOR/EXT
H

F DIGITAL INPUT SWITCH/LED P.C.B.


GND
PHONO
(R ch)
(L ch)
TUNER
CD
AUX
TAPE 1
TAPE 2
(REC OUT)
(PLAYBACK)
GRAPHIC EQ/EXT
(OUT)
(IN)
DIRECT
(IN)
IC101
IC102
IC502
IC503
Q101
Q102
Q103
Q104
VR202
MC
MM
aux
digital
RECORDING SELECTOR
1 ···· DIGITAL/AUX
2 ···· PHONO
3 ···· TUNER
4 ···· CD
5 ···· TAPE 1▶2/DAT
6 ···· TAPE 2/DAT▶1
DIRECT OUT SELECTOR
1 ···· OFF
2 ···· ON/DIGITAL
3 ···· ON/ANALOG
1 ···· DIGITAL/AUX
2 ···· PHONO
3 ···· TUNER
4 ···· CD
5 ···· TAPE 1
6 ···· TAPE 2/DAT
BALANCE
PHONO
(DIGITAL/AUX)
INPUT SELECTOR
(S101)
(S204)
(S201)
(S202)
(S203)
32760

PHONO EQUALIZER/INPUT, REC
SOURCE SELECT/TONE CONTROL AMP
/BUFFER AMP/RELAY DRIVE/POWER SO

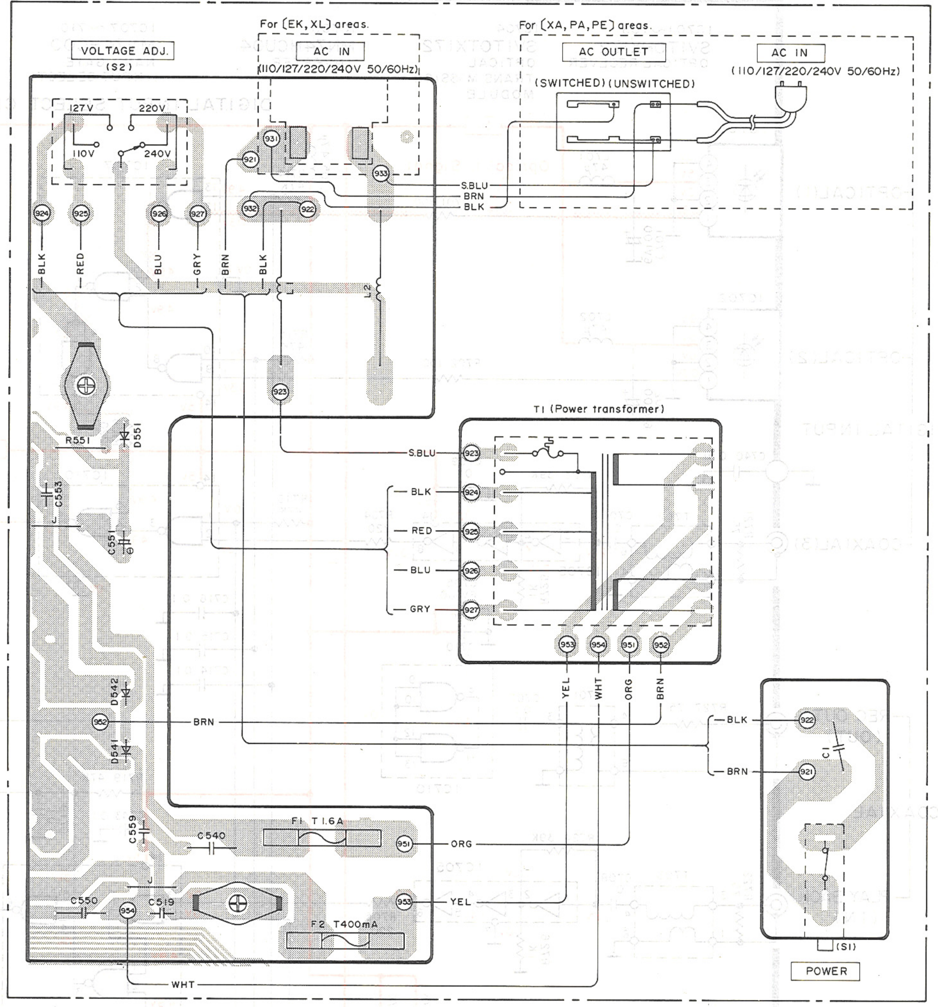

EXT (IN)
DIRECT (IN)
OUTPUT (PER OUT)
AC IN (220V 50/60Hz)
POWER SWITCH P.C.B.
G
POWER
(S1)
E
VOLUME P.C.B.
VOLUME
VR201-1
VR201-2
VR201-3
VR201-4
D
LED P.C.B.
(VOLUME POINT IND.)
D534
J9
C
MUTING/LOUDNESS SWITCH P.C.B.
(S206) LOUDNESS
(S205) MUTING
T1 (Power transformer)
F1 T1.6A
F2 T400mA
IC401
IC402
IC501
IC301
Q301
Q302
Q511
Q512
Q513
Q521
Q531
Q551
Q552
RLY201
RLY401
RLY551
(S203)
ECT OUT SELECTOR
····OFF
····ON/DIGITAL
····ON/ANALOG
INPUT, REC
NE CONTROL AMP
AY DRIVE/POWER SOURCE P.C.B.
B
(S207)
(S301)
SUBSONIC FILTER
TONE
TREBLE
BASS

Note:

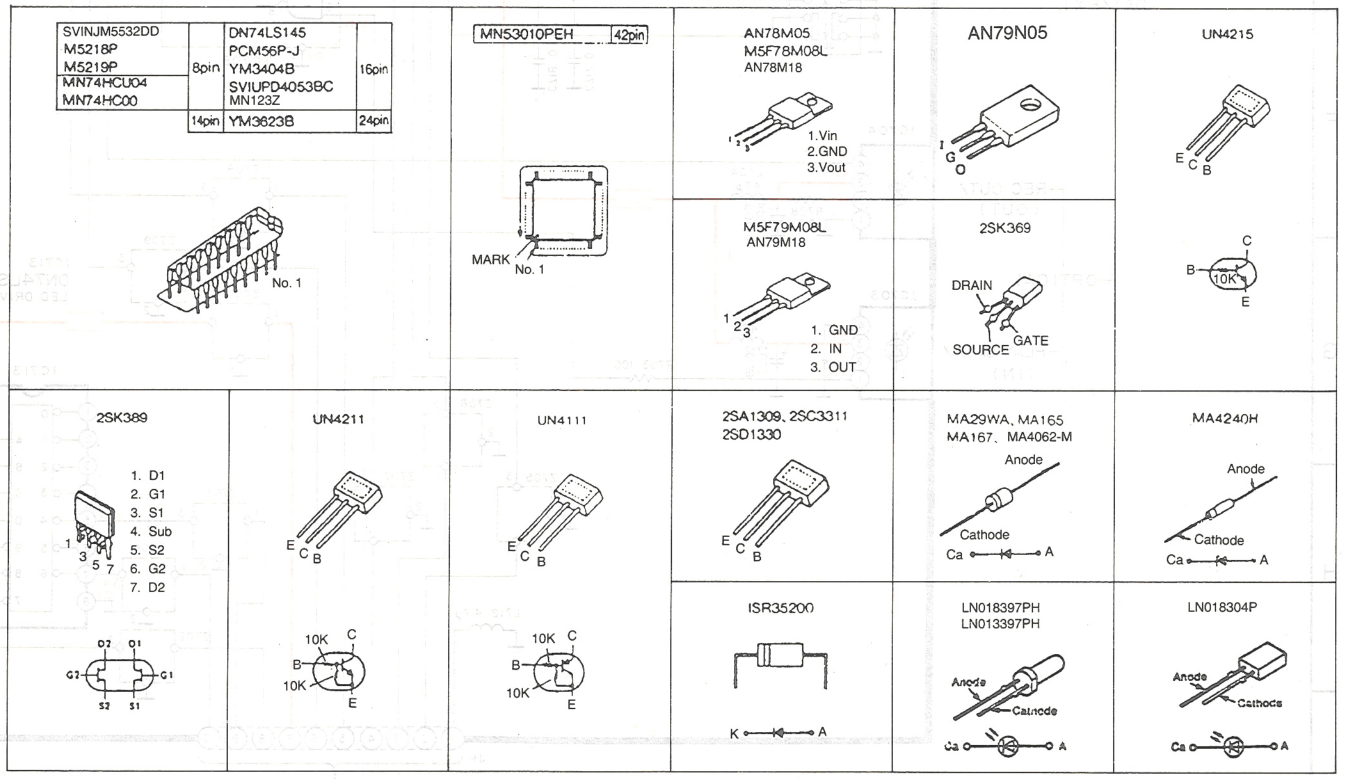
—┤├--(C)
------(R)
-∿∿--(L)

Resistors, Capacitors and Coils indicated by (C), (R) or (L) area used only in the EG(F.R.Germany), EI(Italy) areas.

Power Source For (EK, XL, XA, PA, PE) areas.


VOLTAGE ADJ.
(S2)
127V
220V
110V
240V
For (EK, XL) areas.
AC IN
(110/127/220/240V 50/60Hz)
For (XA, PA, PE) areas.
AC OUTLET
(SWITCHED) (UNSWITCHED)
AC IN
(110/127/220/240V 50/60Hz)
S.BLU
BRN
BLK
RED
BLU
GRY
YEL
WHT
ORG
T1 (Power transformer)
F1 T1.6A
F2 T400mA
L1
L2
POWER
(S1)

●Terminal guide of transistors, diodes and IC's

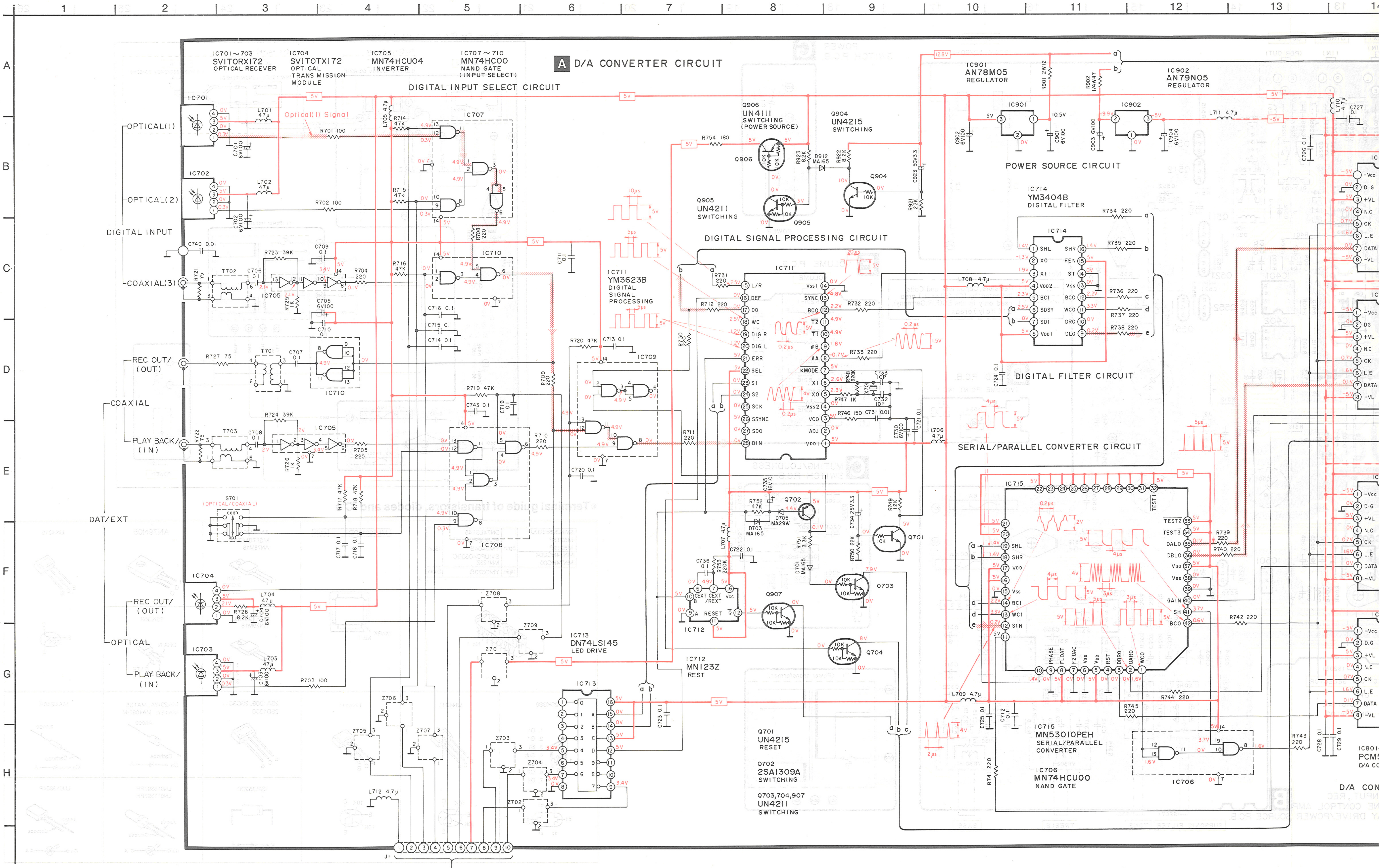


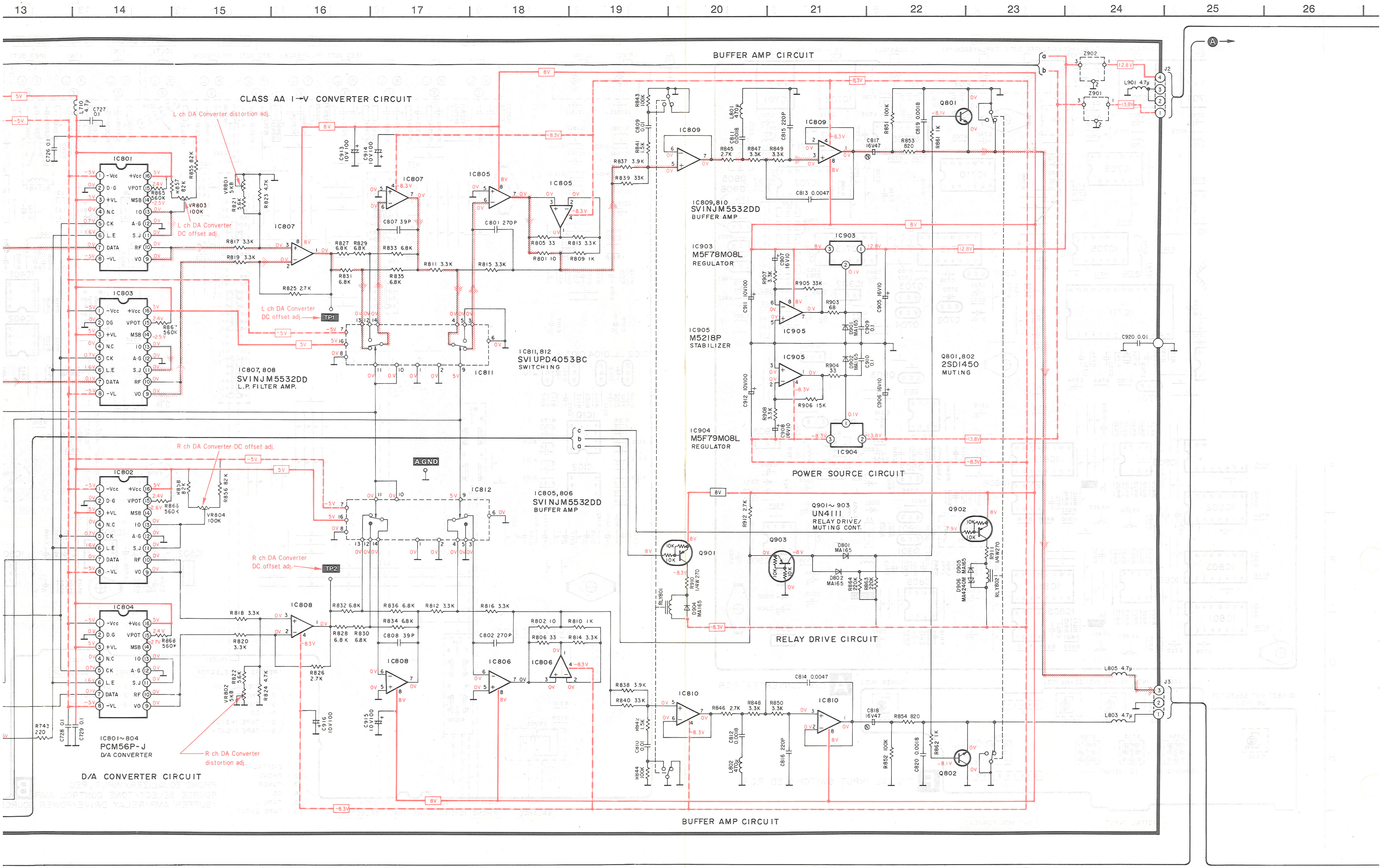
SVINJM5532DD M5218P M5219P MN74HCU04 MN74HC00	8pin	DN74LS145 PCM56P-J YM3404B SVIUPD4053BC MN123Z	16pin
	14pin	YM3623B	24pin

MN53010PEH	42pin

No. 1
MARK
No. 1
AN78M05
M5F78M08L
AN78M18
1.Vin
2.GND
3.Vout
AN79N05
I
G
O
UN4215
E C B
B
10K
C
E
M5F79M08L
AN79M18
1. GND
2. IN
3. OUT
2SK369
DRAIN
SOURCE
GATE
2SK389
1. D1
2. G1
3. S1
4. Sub
5. S2
6. G2
7. D2
D2 D1
G2 G1
S2 S1
UN4211
E C B
10K
B
10K
C
E
UN4111
E C B
10K
B
10K
C
E
2SA1309, 2SC3311
2SD1330
E C B
MA29WA, MA165
MA167, MA4062-M
Anode
Cathode
Ca A
MA4240H
Anode
Cathode
Ca A
ISR35200
K A
LN018397PH
LN013397PH
Anode
Cathode
Ca A
LN018304P
Anode
Cathode
Ca A

■ SCHEMATIC DIAGRAM


A D/A CONVERTER CIRCUIT
DIGITAL INPUT SELECT CIRCUIT
IC701~703 SVITORX172 OPTICAL RECEVER
IC704 SVITOTX172 OPTICAL TRANS MISSION MODULE
IC705 MN74HCU04 INVERTER
IC707~710 MN74HC00 NAND GATE (INPUT SELECT)
OPTICAL(1)
OPTICAL(2)
DIGITAL INPUT
COAXIAL(3)
REC OUT/ (OUT)
COAXIAL
PLAY BACK/ (IN)
DAT/EXT
REC OUT/ (OUT)
OPTICAL
PLAY BACK/ (IN)
Optical(1) Signal
S701 (OPTICAL/COAXIAL)
IC713 DN74LS145 LED DRIVE
IC711 YM3623B DIGITAL SIGNAL PROCESSING
DIGITAL SIGNAL PROCESSING CIRCUIT
IC712 MN1237 REST
Q906 UN4111 SWITCHING (POWER SOURCE)
Q904 UN4215 SWITCHING
Q905 UN4211 SWITCHING
IC901 AN78M05 REGULATOR
IC902 AN79N05 REGULATOR
POWER SOURCE CIRCUIT
IC714 YM3404B DIGITAL FILTER
DIGITAL FILTER CIRCUIT
SERIAL/PARALLEL CONVERTER CIRCUIT
IC715 MN53010PEH SERIAL/PARALLEL CONVERTER
IC706 MN74HCU00 NAND GATE
Q701 UN4215 RESET
Q702 2SA1309A SWITCHING
Q703,704,907 UN4211 SWITCHING
IC801 PCM5 D/A CO
D/A CON
J1


13
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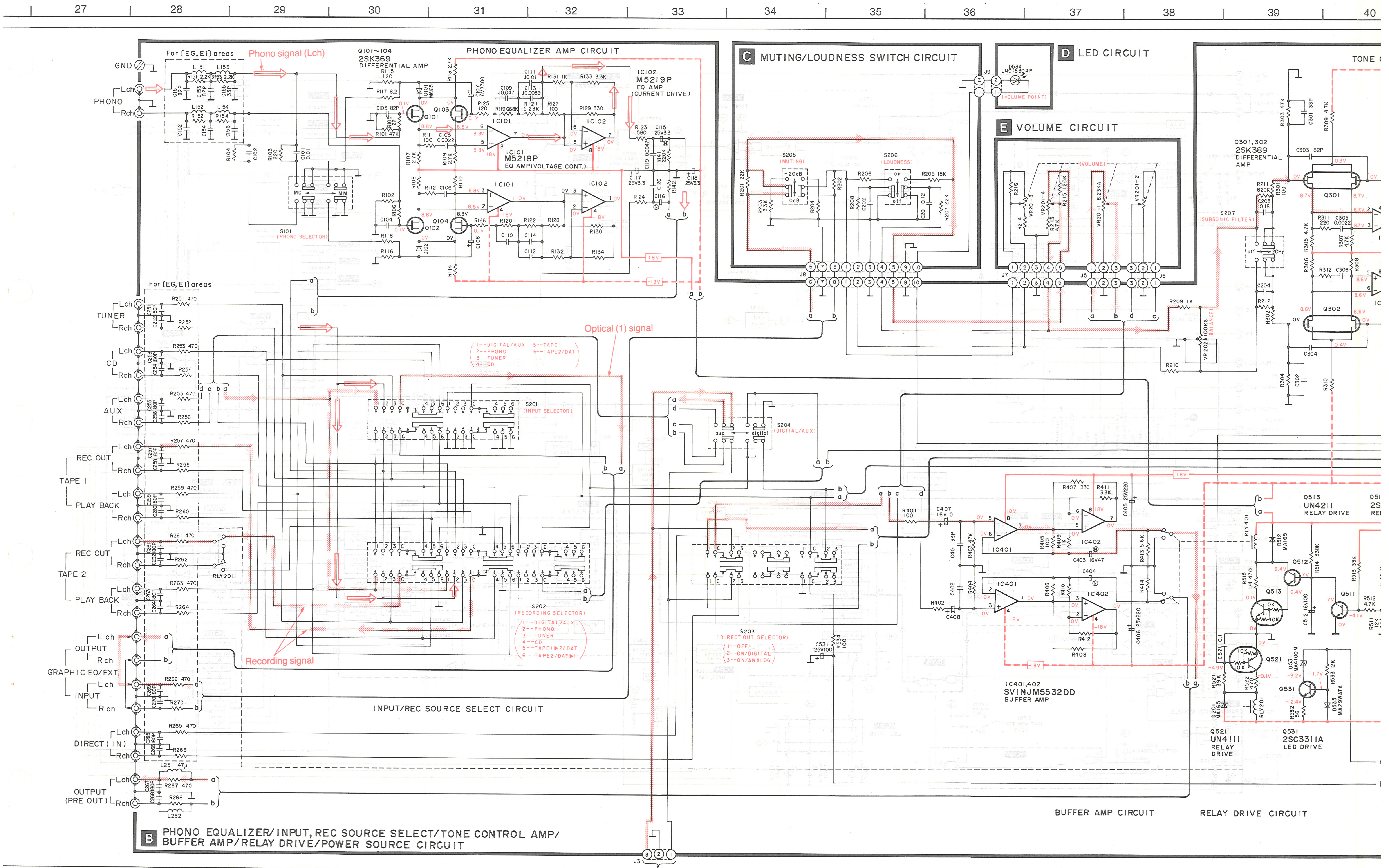
A
CLASS AA I→V CONVERTER CIRCUIT
BUFFER AMP CIRCUIT
POWER SOURCE CIRCUIT
RELAY DRIVE CIRCUIT
D/A CONVERTER CIRCUIT
L ch DA Converter distortion adj.
L ch DA Converter DC offset adj.
R ch DA Converter DC offset adj.
R ch DA Converter distortion adj.
TP1
TP2
A.GND
IC801
IC802
IC803
IC804
IC801~804
PCM56P-J
D/A CONVERTER
-Vcc
+Vcc
D·G
VPOT
+VL
MSB
N.C
IO
CK
A·G
L.E
S.J
DATA
RF
-VL
VO
IC807
IC808
IC807, 808
SVINJM5532DD
L.P. FILTER AMP.
IC805
IC806
IC805, 806
SVINJM5532DD
BUFFER AMP
IC811
IC812
IC811, 812
SVIUPD4053BC
SWITCHING
IC809
IC810
IC809, 810
SVINJM5532DD
BUFFER AMP
IC903
M5F78M08L
REGULATOR
IC905
M5218P
STABILIZER
IC904
M5F79M08L
REGULATOR
Q801
Q802
Q801, 802
2SD1450
MUTING
Q901
Q902
Q903
Q901~903
UN4111
RELAY DRIVE/
MUTING CONT.
RLY801
RLY802
D801 MA165
D802 MA165
D901 MA165
D902 MA165
D904 MA165
D905 MA165
D906 MA4240M
Z901
Z902
L901 4.7μ
L803 4.7μ
L805 4.7μ
L710 4.7μ
J2
J3
C726 0.1
C727 0.1
C728 0.1
C729 0.1
R743 220
VR801 5KB
VR802 5KB
VR803 100K
VR804 100K
R821 5.6K
R822 5.6K
R823 4.7K
R824 4.7K
R855 82K
R856 82K
R857 82K
R858 82K
R865 560K
R866 560K
R867 560K
R868 560K
R817 3.3K
R818 3.3K
R819 3.3K
R820 3.3K
R825 2.7K
R826 2.7K
R827 6.8K
R828 6.8K
R829 6.8K
R830 6.8K
R831 6.8K
R832 6.8K
R833 6.8K
R834 6.8K
R835 6.8K
R836 6.8K
R811 3.3K
R812 3.3K
R815 3.3K
R816 3.3K
R801 10
R802 10
R805 33
R806 33
R809 1K
R810 1K
R813 3.3K
R814 3.3K
C801 270P
C802 270P
C807 39P
C808 39P
C913 10V100
C914 10V100
C915 10V100
C916 10V100
R837 3.9K
R838 3.9K
R839 33K
R840 33K
R841 1.5K
R842 1.5K
R843 100K
R844 100K
C809 0.01
C810 0.01
R845 2.7K
R846 2.7K
R847 3.3K
R848 3.3K
R849 3.3K
R850 3.3K
L801 470μ
L802 470μ
C811 0.0018
C812 0.0018
C813 0.0047
C814 0.0047
C815 220P
C816 220P
C817 16V47
C818 16V47
R851 100K
R852 100K
R853 820
R854 820
C819 0.0018
C820 0.0018
R861 1K
R862 1K
C907 16V10
C908 16V10
R907 3.3K
R908 3.3K
R905 33K
R906 15K
R903 68
R904 33
C909 0.1
C910 0.1
C911 10V100
C912 10V100
C905 16V10
C906 16V10
C920 0.01
R912 2.7K
R911 1/4W270
R910 1/4W270
10K
a
b
c
5V
-5V
8V
-8.3V
0V
2.4V
-2.5V
2.6V
-2.7V
0.7V
1.6V
0.1V
12.8V
-13.8V
0.1V
7.9V
-8.1V
-8V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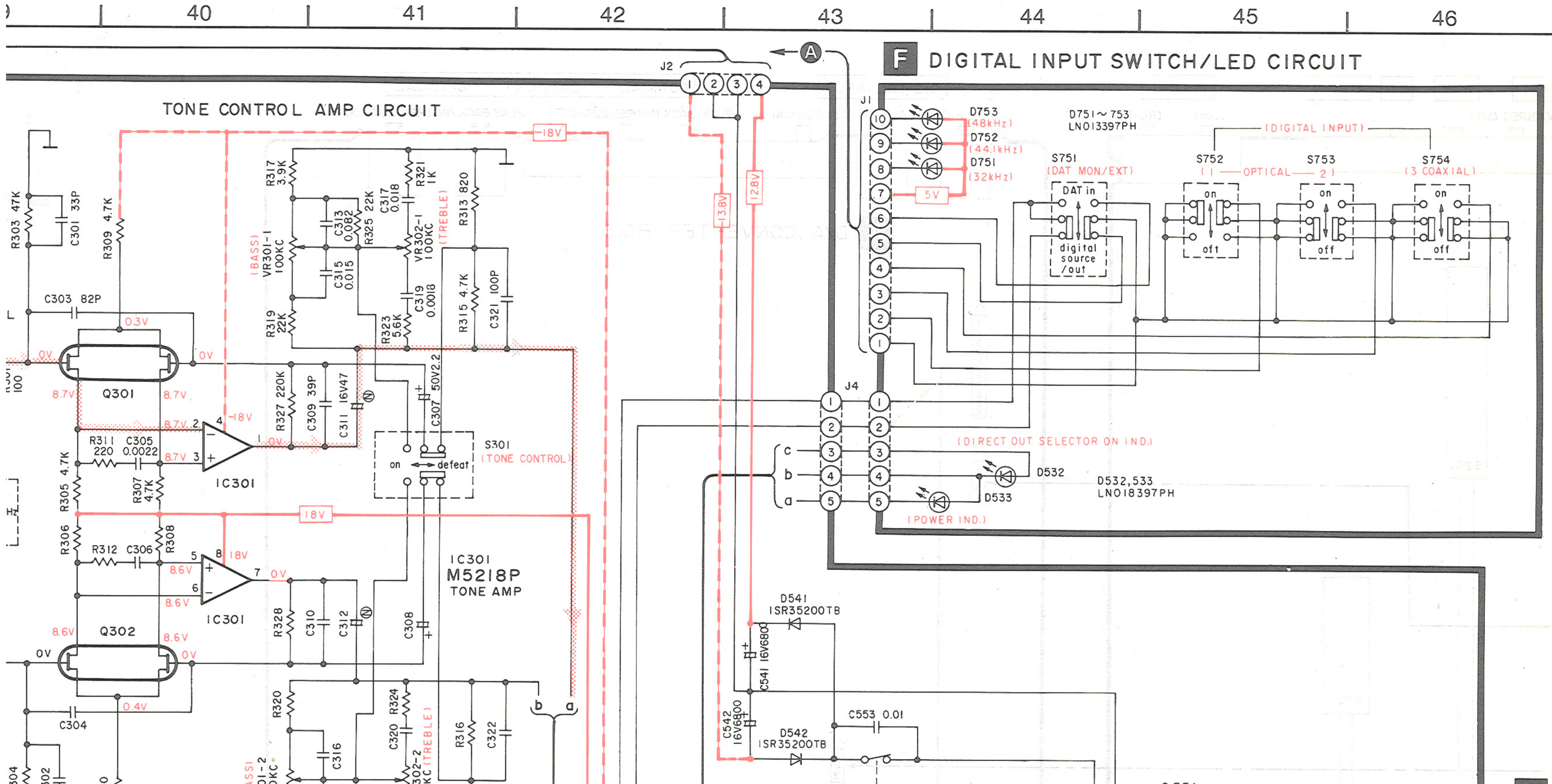
PHONO EQUALIZER AMP CIRCUIT
For [EG, EI] areas
Phono signal (Lch)
GND
PHONO
Lch
Rch
Q101~104
2SK369
DIFFERENTIAL AMP
IC102
M5219P
EQ AMP
(CURRENT DRIVE)
IC101
M5218P
EQ AMP(VOLTAGE CONT.)
S101
(PHONO SELECTOR)
MC
MM
C MUTING/LOUDNESS SWITCH CIRCUIT
S205
(MUTING)
-20dB
0dB
S206
(LOUDNESS)
on
off
D LED CIRCUIT
D534
LN01830AP
(VOLUME POINT)
E VOLUME CIRCUIT
(VOLUME)
VR201-1
VR201-2
VR201-3
VR201-4
Q301,302
2SK389
DIFFERENTIAL AMP
S207
(SUBSONIC FILTER)
off
20Hz
VR202
100KG
(BALANCE)
TONE
For [EG, EI] areas
TUNER
CD
AUX
REC OUT
TAPE 1
PLAY BACK
REC OUT
TAPE 2
PLAY BACK
RLY201
OUTPUT
GRAPHIC EQ/EXT
INPUT
DIRECT (IN)
OUTPUT
(PRE OUT)
Optical (1) signal
1--DIGITAL/AUX
2--PHONO
3--TUNER
4--CD
5--TAPE1
6--TAPE2/DAT
S201
(INPUT SELECTOR)
S204
(DIGITAL/AUX)
aux
digital
S202
(RECORDING SELECTOR)
1--DIGITAL/AUX
2--PHONO
3--TUNER
4--CD
5--TAPE1▶2/DAT
6--TAPE2/DAT▶1
Recording signal
S203
(DIRECT OUT SELECTOR)
1--OFF
2--ON/DIGITAL
3--ON/ANALOG
INPUT/REC SOURCE SELECT CIRCUIT
IC401
IC402
IC401,402
SVINJM5532DD
BUFFER AMP
BUFFER AMP CIRCUIT
Q513
UN4211
RELAY DRIVE
Q521
UN4111
RELAY DRIVE
Q531
2SC3311A
LED DRIVE
RLY401
RLY201
RELAY DRIVE CIRCUIT
J3
J5
J6
J7
J8
J9
18V
-18V

B PHONO EQUALIZER/INPUT, REC SOURCE SELECT/TONE CONTROL AMP/BUFFER AMP/RELAY DRIVE/POWER SOURCE CIRCUIT


F DIGITAL INPUT SWITCH/LED CIRCUIT
TONE CONTROL AMP CIRCUIT
J1
J2
J4
D753 (48kHz)
D752 (44.1kHz)
D751 (32kHz)
D751~753 LN01339 7PH
S751 (DAT MON/EXT)
DAT in
digital source /out
S752 (1
S753 OPTICAL 2)
S754 (3 COAXIAL)
(DIGITAL INPUT)
(DIRECT OUT SELECTOR ON IND.)
(POWER IND.)
D532
D533
D532,533 LN01839 7PH
Q301
Q302
IC301
IC301 M5218P TONE AMP
S301 (TONE CONTROL)
VR301-1 100KC (BASS)
VR302-1 100KC (TREBLE)
VR301-2 100KC (BASS)
VR302-2 100KC (TREBLE)
D541 1SR35200TB
D542 1SR35200TB
C553 0.01
18V
13.8V
12.8V
5V

(This schematic diagram may be modified at any time with the development of new technology.)

Notes:

1. **S1** : Power switch in **“on”** position.
   (■; off, ▬; on)
2. **S2** : Voltage selector switch in “240 V” position.
   (For [EK], [XL], [XA], [PA] and [PE] areas.)
3. **S101** : Phono cartridge selector switch in **“MM”** position.
   (■; MM, ▬; MC)
4. **S201** : Input selector switch in **“aux/digital”** position.
   (Phono, tuner, CD, aux/digital, tap1, tap2/DAT)
5. **S202** : Recording output selector switch in **“aux/digital”** position.
   (Phono, tuner, CD, aux/digital, tap1, tap2/DAT)
6. **S203** : Direct output selector switch in **“off”** position.
   (analog, digital, off)
7. **S204** : Digital/auxiliary source selector switch in **“digital”** position.
   (■; digital, ▬; aux)
8. **S205** : Audio muting switch in **“0 dB”** position.
   (■; 0 dB, ▬; −20 dB)
9. **S206** : Loudness switch in **“off”** position.
   (■; off, ▬; on)
10. **S207** : Subsonic filter switch in **“off”** position.
    (■; off, ▬; 20 Hz)
11. **S301** : Tone control switch in **“defeat”** position.
    (■; defeat, ▬; on)
12. **S701** : Optical/coaxial selector switch in **“Optical”** position.
    (Optical, coaxial)
13. **S751** : DAT monitor switch in **“off”** position.
    (■; off, ▬; on)
14. **S752~S754** : Digital input selector switch in **“off”** position.
    S752: 1, S753: 2, S754: 3
15. Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.

⇒ Optical (1) signal
⇒ Recording signal
▭ Positive voltage lines.
⇨ Phono signal (Lch)
▭ Negative voltage lines.

16. Important safety notice:
    Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer’s specified parts.

***Caution!**

IC and LSI are sensitive to static electricity.

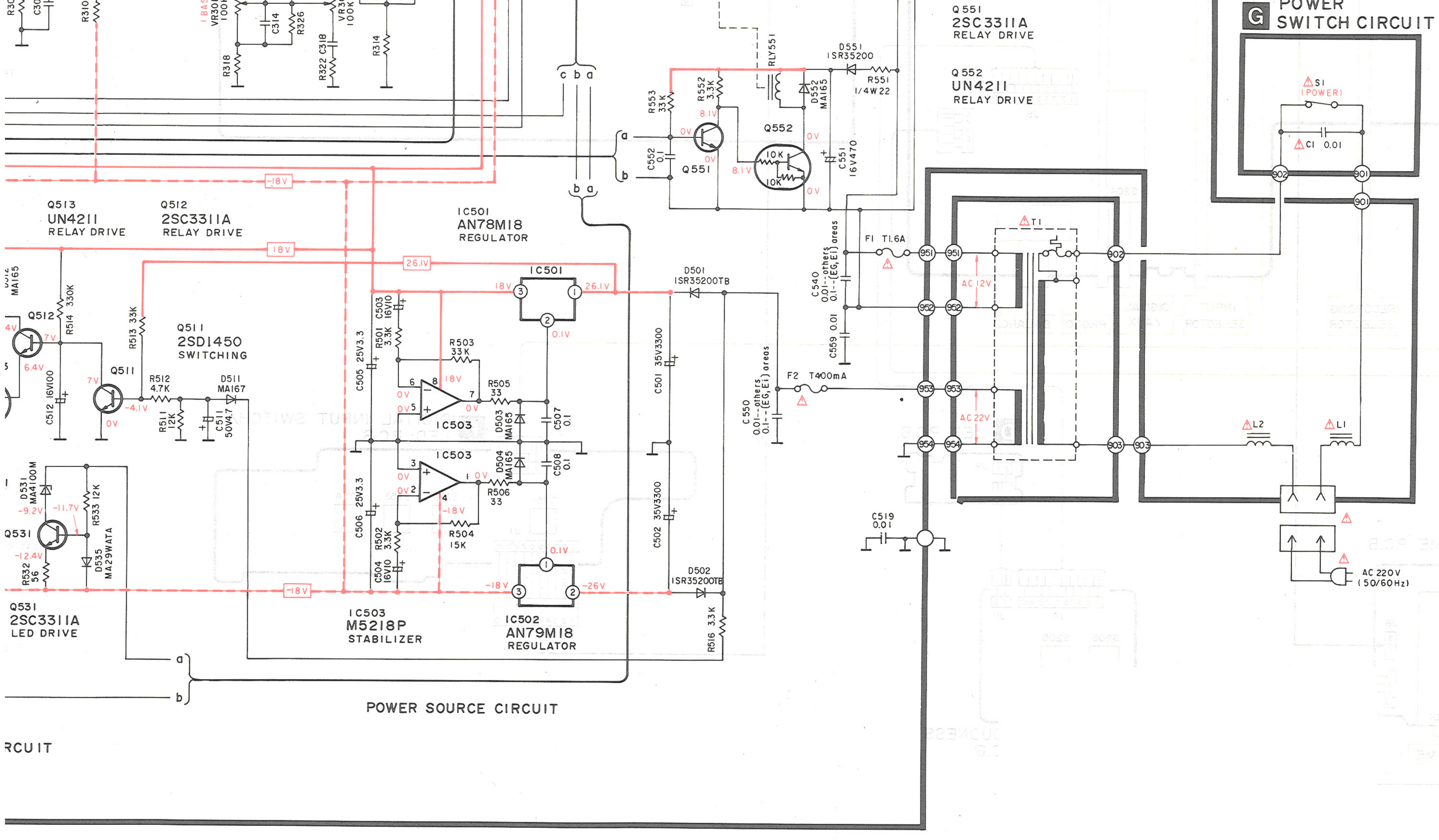
Secondary trouble can be prevented by taking care during repair.

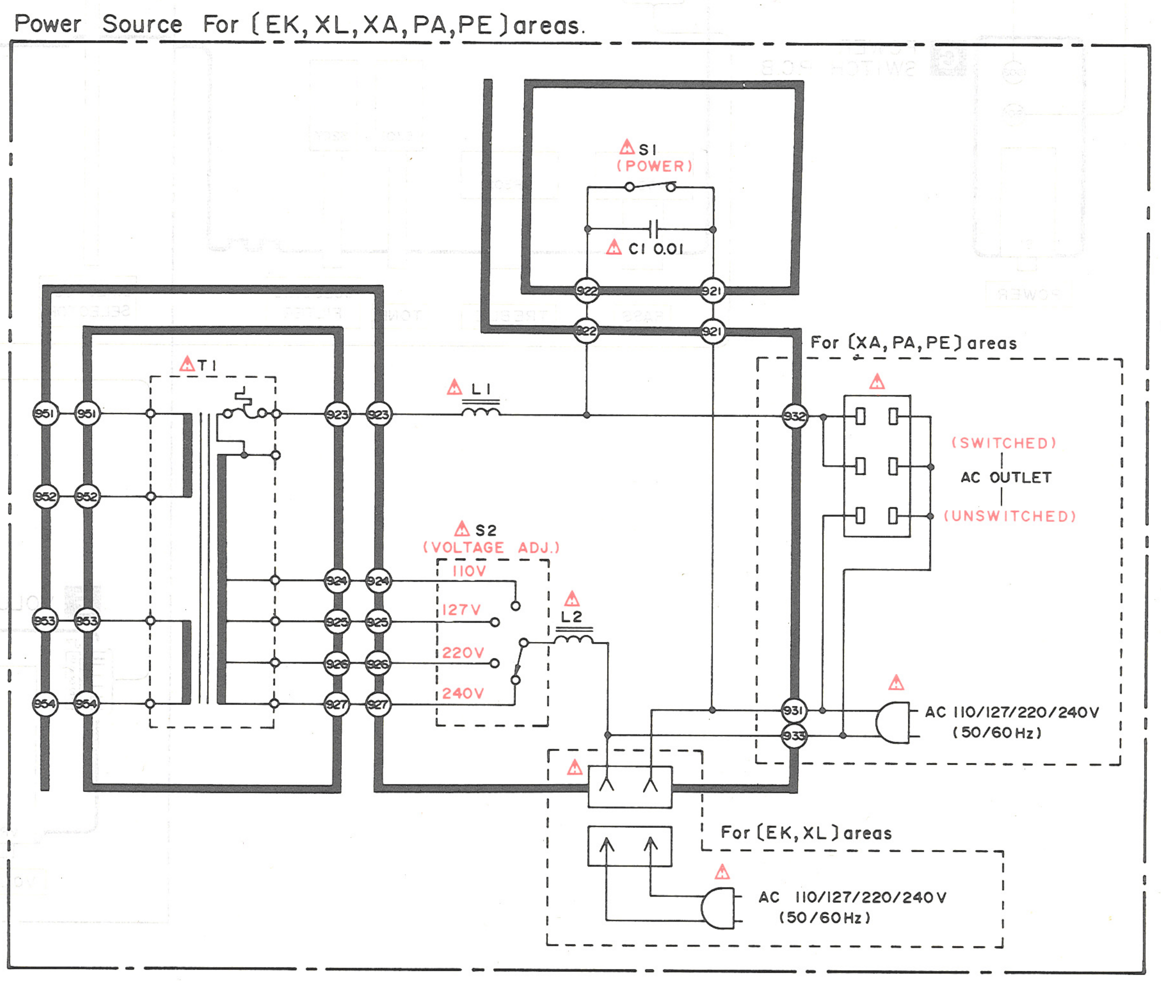
*Cover the parts boxes made of plastics with aluminum foil.

*Ground the soldering iron.

*Put a conductive mat on the work table.

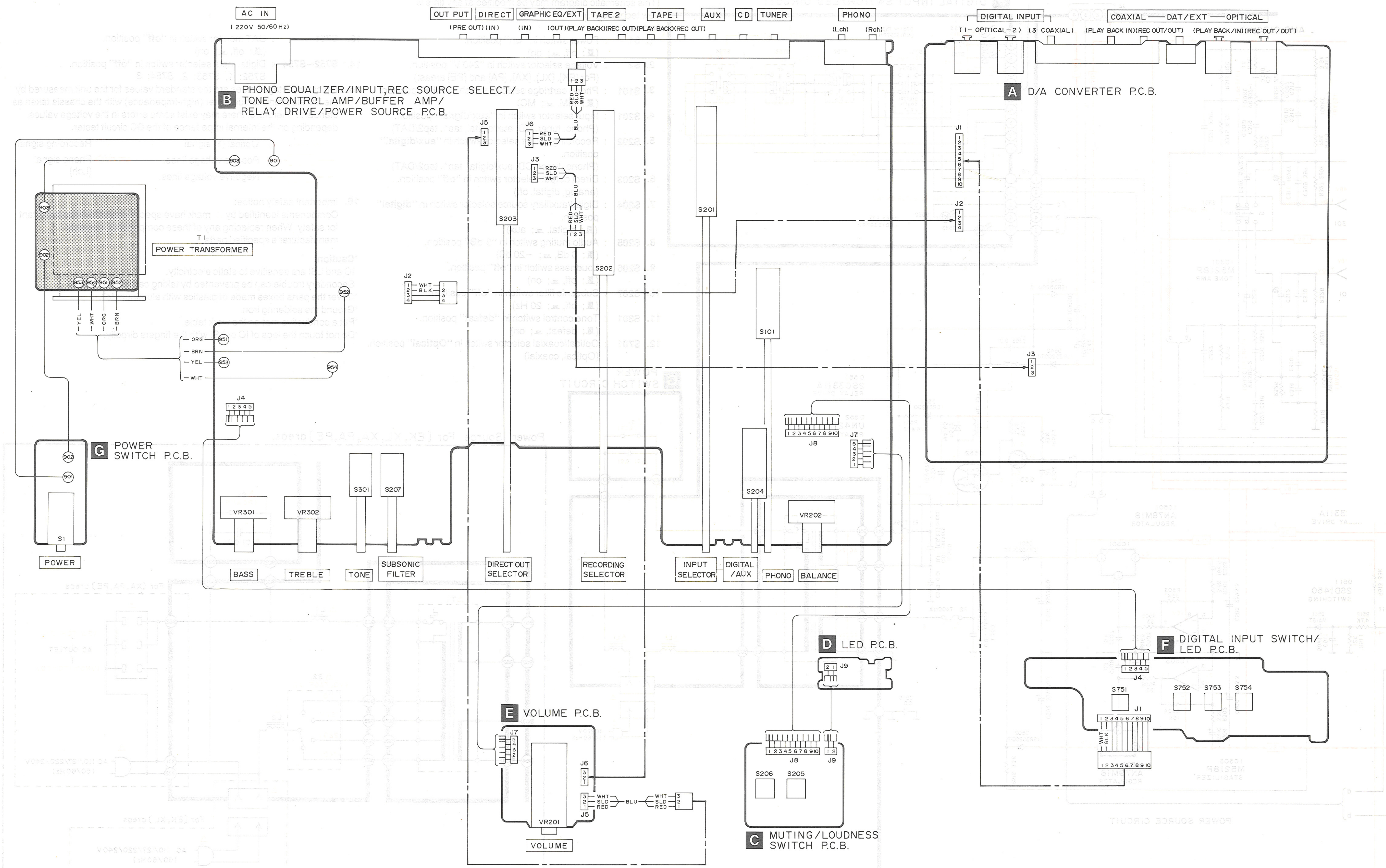
*Do not touch the legs of IC or LSI with the fingers directly.


G POWER SWITCH CIRCUIT
POWER SOURCE CIRCUIT
Q551 2SC3311A RELAY DRIVE
Q552 UN4211 RELAY DRIVE
Q513 UN4211 RELAY DRIVE
Q512 2SC3311A RELAY DRIVE
Q511 2SD1450 SWITCHING
Q531 2SC3311A LED DRIVE
IC501 AN78M18 REGULATOR
IC502 AN79M18 REGULATOR
IC503 M5218P STABILIZER
RLY551
D551 1SR35200
D501 1SR35200TB
D502 1SR35200TB
F1 T1.6A
F2 T400mA
⚠T1
⚠S1 (POWER)
⚠C1 0.01
⚠L1
⚠L2
AC 12V
AC 22V
AC 220V (50/60Hz)
18V
26.1V
-26V
-18V

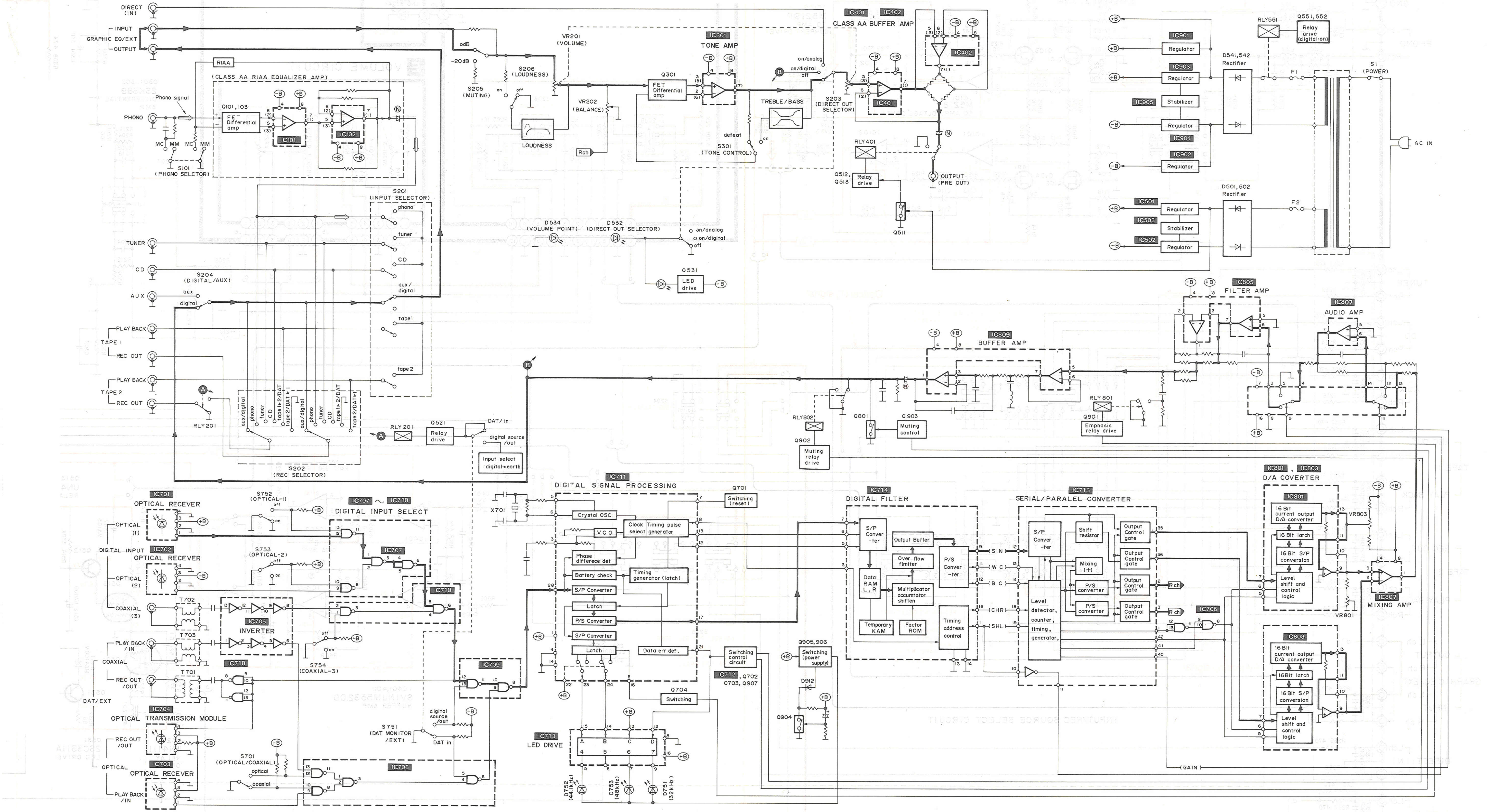

Power Source For (EK, XL, XA, PA, PE) areas.
⚠S1 (POWER)
⚠C1 0.01
⚠T1
⚠L1
⚠L2
⚠S2 (VOLTAGE ADJ.)
110V
127V
220V
240V
For (XA, PA, PE) areas
(SWITCHED)
AC OUTLET
(UNSWITCHED)
AC 110/127/220/240V (50/60Hz)
For (EK, XL) areas
AC 110/127/220/240V (50/60Hz)

■ WIRING CONNECTION DIAGRAM

■ BL


AC IN
(220V 50/60Hz)
OUT PUT
DIRECT
GRAPHIC EQ/EXT
TAPE 2
TAPE 1
AUX
CD
TUNER
PHONO
(PRE OUT) (IN)
(IN)
(OUT) (PLAY BACK) (REC OUT) (PLAY BACK) (REC OUT)
(Lch)
(Rch)
DIGITAL INPUT
(1- OPITICAL-2)
(3 COAXIAL)
COAXIAL — DAT/EXT — OPITICAL
(PLAY BACK IN) (REC OUT/OUT)
(PLAY BACK/IN) (REC OUT/OUT)
B PHONO EQUALIZER/INPUT, REC SOURCE SELECT/ TONE CONTROL AMP/BUFFER AMP/ RELAY DRIVE/POWER SOURCE P.C.B.
A D/A CONVERTER P.C.B.
T1
POWER TRANSFORMER
903
901
902
953
956
951
952
954
YEL
WHT
ORG
BRN
J1
J2
J3
J4
J5
J6
J7
J8
J9
RED
SLD
WHT
BLU
BLK
S203
S202
S201
S101
S204
S301
S207
VR301
VR302
VR202
G POWER SWITCH P.C.B.
S1
POWER
BASS
TREBLE
TONE
SUBSONIC FILTER
DIRECT OUT SELECTOR
RECORDING SELECTOR
INPUT SELECTOR
DIGITAL /AUX
PHONO
BALANCE
D LED P.C.B.
E VOLUME P.C.B.
VR201
VOLUME
C MUTING/LOUDNESS SWITCH P.C.B.
S206
S205
F DIGITAL INPUT SWITCH/ LED P.C.B.
S751
S752
S753
S754

■ BLOCK DIAGRAM


DIRECT (IN)
INPUT
GRAPHIC EQ/EXT
OUTPUT
RIAA
(CLASS AA RIAA EQUALIZER AMP)
Phono signal
PHONO
Q101, 103
FET Differential amp
IC101
IC102
MC MM MC MM
S101 (PHONO SELCTOR)
0dB
-20dB
S205 (MUTING)
on
off
S206 (LOUDNESS)
LOUDNESS
VR201 (VOLUME)
VR202 (BALANCE)
Rch
Q301
FET Differential amp
IC301
TONE AMP
defeat
on
S301 (TONE CONTROL)
TREBLE/BASS
IC401 , IC402
CLASS AA BUFFER AMP
on/analog
on/digital
off
S203 (DIRECT OUT SELECTOR)
IC401
IC402
RLY401
Q512, Q513
Relay drive
OUTPUT (PRE OUT)
Q511
S201 (INPUT SELECTOR)
phono
tuner
CD
aux/digital
tape1
tape 2
TUNER
CD
AUX
S204 (DIGITAL/AUX)
aux
digital
PLAY BACK
TAPE 1
REC OUT
PLAY BACK
TAPE 2
REC OUT
RLY201
aux/digital
phono
tuner
CD
tape 1→2/DAT
tape 2/DAT→1
tape 2/DAT→
S202 (REC SELECTOR)
RLY 201
Q521
Relay drive
DAT/in
digital source /out
Input select digital→earth
D534 (VOLUME POINT)
D532 (DIRECT OUT SELECTOR)
on/analog
on/digital
off
Q531
LED drive
IC901
Regulator
IC903
Regulator
IC905
Stabilizer
Regulator
IC904
IC902
Regulator
RLY551
Q551, 552
Relay drive (digital on)
D541, 542 Rectifier
F1
S1 (POWER)
AC IN
D501, 502 Rectifier
F2
IC501
Regulator
IC503
Stabilizer
IC502
Regulator
IC805
FILTER AMP
IC807
AUDIO AMP
IC809
BUFFER AMP
RLY801
Q901
Emphasis relay drive
RLY802
Q801
Q903
Muting control
Q902
Muting relay drive
IC701
OPTICAL RECEVER
OPTICAL (1)
DIGITAL INPUT
IC702
OPTICAL RECEVER
OPTICAL (2)
COAXIAL (3)
T702
T703
IC705
INVERTER
S752 (OPTICAL-1)
S753 (OPTICAL-2)
IC707 ~ IC710
DIGITAL INPUT SELECT
IC707
IC710
S754 (COAXIAL-3)
PLAY BACK /IN
COAXIAL
REC OUT /OUT
T701
DAT/EXT
IC710
IC709
IC704
OPTICAL TRANSMISSION MODULE
REC OUT /OUT
OPTICAL
IC703
OPTICAL RECEVER
PLAY BACK /IN
S751 (DAT MONITOR /EXT)
digital source /out
DAT in
S701 (OPTICAL/COAXIAL)
optical
coaxial
IC708
X701
IC711
DIGITAL SIGNAL PROCESSING
Crystal OSC
VCO
Clock select
Timing pulse generator
Phase differece det
Battery check
Timing generator (latch)
S/P Converter
Latch
P/S Converter
S/P Converter
Latch
Data err det.
Q701
Switching (reset)
Switching control circuit
IC712, Q702 Q703, Q907
Q704
Switching
IC713
LED DRIVE
A B C D
D752 (44.1kHz)
D753 (48kHz)
D751 (32kHz)
Q905, 906
Switching (power supply)
D912
Q904
IC714
DIGITAL FILTER
S/P Conver-ter
Output Buffer
Over flow limiter
Data RAM L, R
Multiplicator accumlator shifter
P/S Conver-ter
Temporary RAM
Factor ROM
Timing address control
(SIN)
(W C)
(B C)
(CHR)
(SHL)
IC715
SERIAL/PARALEL CONVERTER
S/P Conver-ter
Shift resistor
Output Control gate
Mixing (+)
P/S converter
Level detector, counter, timing, generator,
Rch
Rch
IC706
IC801 , IC803
D/A COVERTER
IC801
16 Bit current output D/A converter
16 Bit latch
16 Bit S/P conversion
Level shift and control logic
VR803
VR801
IC807
MIXING AMP
IC803
16 Bit current output D/A converter
16Bit latch
16 Bit S/P conversion
Level shift and control logic
GAIN

■ FUNCTIONS OF IC TERMINALS

● YM3623B DIGITAL INTERFACE RECEPTION

(PU) terminals are "pulled up".

<table>
<tr><th>Pin No.</th><th>Terminal Name</th><th>I/O</th><th>Function</th></tr>
<tr><td>1</td><td>VDD1</td><td>——</td><td>This is the power connection terminal (+5 V).</td></tr>
<tr><td>2</td><td>ADJ</td><td>I</td><td>This terminal is for the adjustment of the VCO oscillation frequency, but it is not used in this unit.</td></tr>
<tr><td>3</td><td>VCO</td><td>I/O</td><td>This is the external condenser terminal for the VCO circuitry.</td></tr>
<tr><td>4</td><td>VSS2</td><td>——</td><td>This is the ground connection terminal of the system.</td></tr>
<tr><td>5</td><td>XO</td><td>O</td><td>This is the output terminal for the crystal vibrator (16.9344 MHz).</td></tr>
<tr><td>6</td><td>XI</td><td>I</td><td>This is the input terminal for the crystal vibrator.</td></tr>
<tr><td>7</td><td>KMODE</td><td>I (PU)</td><td>At a high level...the PLL circuitry is activated when the DIN terminal receives an input signal. Otherwise, the crystal vibrator is activated.
At a low level...the crystal vibrator is activated, regardless of the DIN terminal input.</td></tr>
<tr><td>8</td><td>ØA</td><td>O</td><td>This terminal outputs a 16.9344-MHz frequency when the crystal vibrator functions. When the PLL circuitry is activated, the frequency varies according to the speed of input data of the DIN terminal (fs=about 16.9344 MHz when it is 44.2 kHz).</td></tr>
<tr><td>9</td><td>ØB</td><td>O</td><td>The frequency of this terminal is divided into a third of that of terminal ØA when the crystal vibrator functions. When the PLL circuitry is activated, the frequency varies according to the speed of input data of the DIN terminal (fs=about 16.9344 when it is 44.2 kHz).</td></tr>
<tr><td>10</td><td>T1</td><td>I (PU)</td><td>This is the input terminal for checking the internal circuitry.</td></tr>
<tr><td>11</td><td>T2</td><td>I (PU)</td><td>This is the input terminal for checking the internal circuitry.</td></tr>
<tr><td>12</td><td>BCO</td><td>O</td><td>Used to output the time-clock signal from the DO terminal.</td></tr>
<tr><td>13</td><td>SYNC</td><td>O</td><td>Used to output the synchronization signal.</td></tr>
<tr><td>14</td><td>VSS1</td><td>O</td><td>This is the ground connection terminal of the system (+0 V).</td></tr>
<tr><td>15</td><td>L/R</td><td>O</td><td>At a high level...data on the left channel is output from the DO terminal.
At a low level...data on the right channel is output from the DO terminal.</td></tr>
<tr><td>16</td><td>DEF</td><td>O</td><td>At a high level...input data is emphasized.
At a low level...input data is not emphasized.</td></tr>
<tr><td>17</td><td>DO</td><td>O</td><td>Outputs 16-bit data.</td></tr>
<tr><td>18</td><td>WC</td><td>O</td><td>This is the terminal for checking data output to the DO terminal.</td></tr>
<tr><td>19</td><td>DIGR</td><td>O</td><td>This terminal outputs the signal for the right channel.</td></tr>
<tr><td>20</td><td>DIGL</td><td>O</td><td>This terminal outputs the signal for the left channel.</td></tr>
<tr><td>21</td><td>ERR</td><td>O</td><td>Error detection terminal. H=Error is found during parity check L=No errors</td></tr>
<tr><td>22</td><td>SEL</td><td>I (PU)</td><td rowspan="3">
<table>
<tr><th>Input</th><th colspan="2">Output</th><th colspan="2">Output</th></tr>
<tr><th>SEL</th><th>S1</th><th>Function</th><th>S2</th><th>Function</th></tr>
<tr><td rowspan="2">L</td><td>L</td><td>Copying is not possible</td><td>L</td><td>DC (except DAT)</td></tr>
<tr><td>H</td><td>Copying is possible</td><td>H</td><td>DAT</td></tr>
<tr><td rowspan="4">H</td><td>L</td><td></td><td>L</td><td>The sampling frequency of the DIN input signal is 44.1 kHz.</td></tr>
<tr><td>L</td><td></td><td>H</td><td>48 kHz</td></tr>
<tr><td>H</td><td></td><td>H</td><td>32 kHz</td></tr>
<tr><td>H</td><td></td><td>L</td><td>——</td></tr>
</table>
</td></tr>
<tr><td>23</td><td>S1</td><td>O</td></tr>
<tr><td>24</td><td>S2</td><td>O</td></tr>
<tr><td>25</td><td>SCK</td><td>O</td><td>Terminal for the clock-signal of the sub code output.</td></tr>
<tr><td>26</td><td>SSYNC</td><td>O</td><td>For the signal of the sub code.</td></tr>
<tr><td>27</td><td>SDO</td><td>O</td><td>For the output of sub code data.</td></tr>
<tr><td>28</td><td>DIN</td><td>I (PU)</td><td>For the input of data.</td></tr>
</table>

● YM3404B (Digital filter)

Pin No.	Mark	I/O	Function
1	SHL	O	1DAC(ST="L"): Lch Deglitcher signal 2DAC(ST="H"): L/Rch Deglitcher signal
2	XO	O	Clock output
3	X1	I	Clock input
4	VDD2	I	Power supply (connected to +5V)
5	BCI	I	Bit clock input (input data)
6	SDSY	I	R/L signal
7	SDI	I	Data input
8	VDD1	I	Power supply (connected to +5V)
9	DLO	O	1DAC(ST="L"): L/Rch data output terminal 2DAC(ST="H"): Lch data output terminal
10	RDO	O	Rch data output (not connected)
11	WCO	O	Output data word clock
12	BCO	O	Bit clock output (output data)
13	VSS	I	GND terminal
14	ST	I	1DAC/2DAC selector terminal
15	FEN	I	System clock selector terminal
16	SHR	O	1DAC(SP="L"): Rch deglitch signal

● MN53010PEH (Serial/Parallel converter)

Pin No.	Mark	I/O	Function			
1	WCO	O	Output data word clock (DALO,DBLO,DARO,DBRO)			
2	DARO	O	Rch data output, (+)terminal			
3	DBRO	O	Rch data output, (-)terminal			
4	RST	O	Reset output data to "0"			
5	VDD	I	Power supply (connected to +5V)			
6	VSS	I	GND terminal			
7	F2DAC	I	"H": 2DAC 18-bit "L": 2DAC 17-bit			
8	FLOAT	I	"H": 4DAC 18-bit "L": 4DAC 17-bit			
9	PHASE	I	"H": Phase inversion "L": Normal mode			
10	LRCK	I	Inverter input			
11	LRCK	O	LRCK signal inverter output			
12	SIN	I	Data input			
13	WCI	I	Input data word clock			
14	BCI	I	Input data bit clock			
15	VSS	I	GND terminal			
16	NC	—	Not connected			
17	VDD	I	Power supply (connected to +5V)			
18	SHR	I	Rch Deglitcher signal			
18	SHR	I	Rch Deglitcher signal			
19	SHL	I	Lch Deglitcher signal			
20 31	NC	—	Not connected			
			NORMAL MODE delay: 180ms	TEST MODE delay: 1.45ms	TEST MODE delay: 0.73ms	TEST MODE delay: 0ms
32	NTEST1	I	H	L	H	L
33	NTEST2	I	H	H	L	L
34	NTEST3	I	"H": Normal mode "L": Reset			
35	DALO	O	Lch data output, (+)terminal			
36	DBLO	O	Rch data output, (-)terminal			
37	VDD	I	Power supply (connected to +5V)			
38	VSS	I	GND terminal			
39	NC	—	Not connected			
40	GAIN	O	Gain selector signal H: 0~-12dB L: below -12dB			
41	SH	O	Deglitch signal H: Sample L: Hold			
42	BCO	O	Output data bit clock			

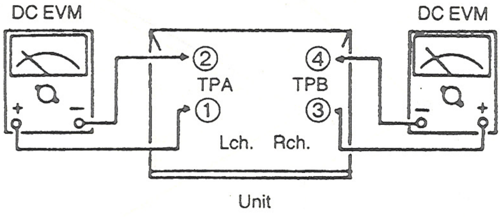
■ MEASUREMENTS AND ADJUSTMENTS

Control positions and equipment used.

- ●Volume knob .... 0 dB (Max.)
- ●Balance control .... center
- ●Direct out selector .... digital
- ●DC electronic voltmeter (EVM)

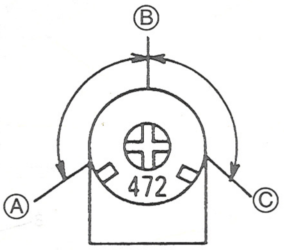
DA CONVERTER DC OFFSET ADJUSTMENT

1. Test equipment connection is shown in figure. (Connect the DC EVM on both channels.)
2. Adjust **VR803** and **VR804** so that the voltage are less than **1 mV** in **3 mV** range.



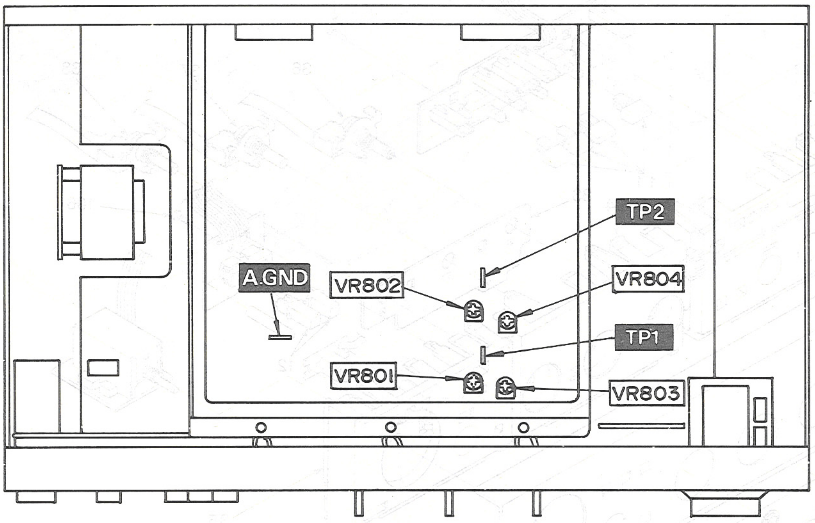
TPA=TP1, TPB=TP2

Note:
After replacing or repairing IC801-804 (Part No. PCM56P-J), rotate VR801 and VR802 fully clockwise (to point C) and counterclockwise (to point A). Afterwards, set the middle points between A and C to their center positions (B).



VR851 and VR852

●**Adjustment points**



●Test Point

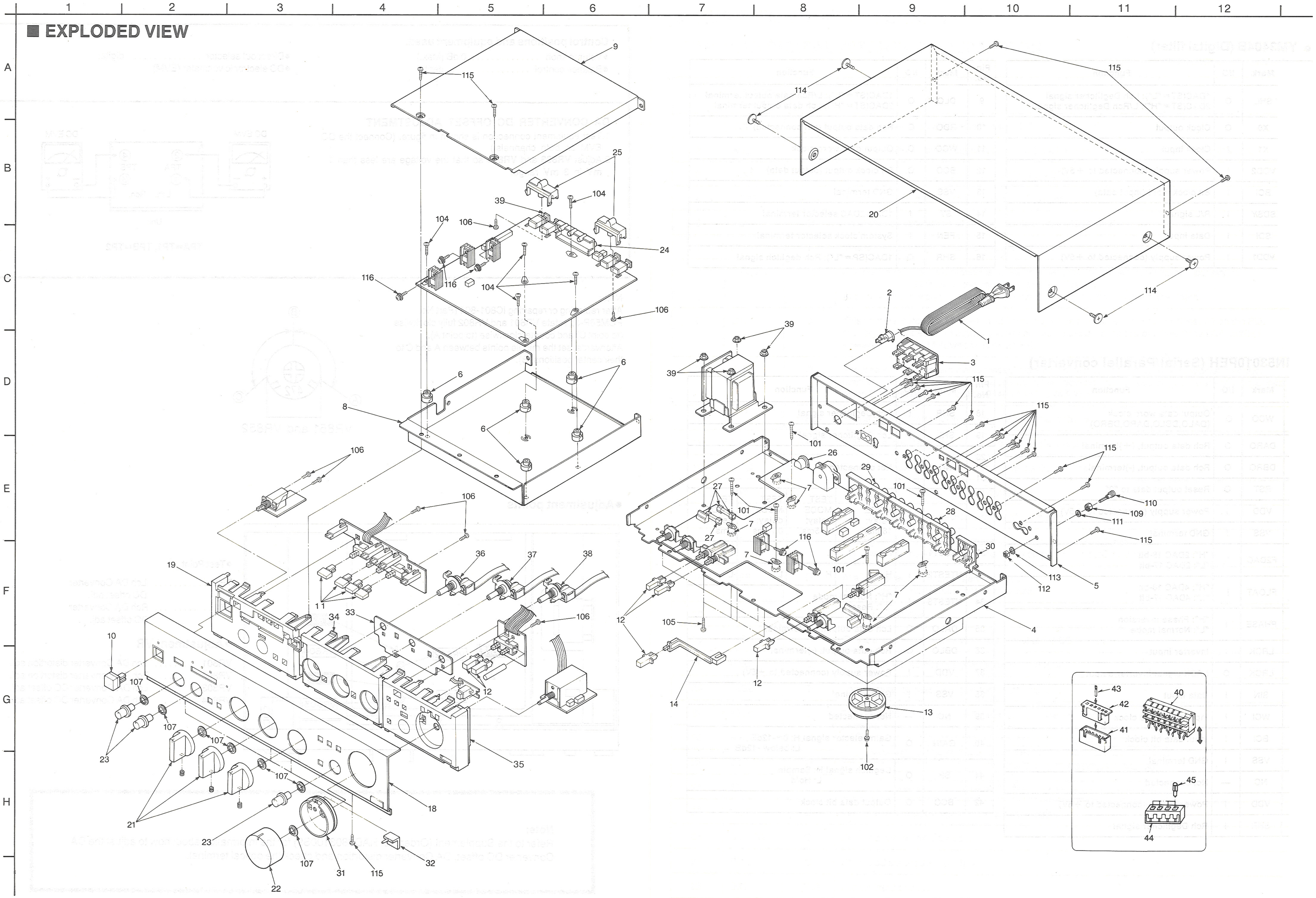
TP1	Lch DA Converter DC offset adj.
TP2	Rch DA Converter DC offset adj.

●**Adjustment VR**

VR801	Lch DA Converter distortion adj.
VR802	Rch DA Converter distortion adj.
VR803	Lch DA Converter DC offset adj.
VR804	Rch DA Converter DC offset adj.

Note:
Refer to the Supplement (Order No. HAD8803100S9) for the information about how to adjust the DA Converter DC offset, DA Converter distortion and check the optical terminal.

EXPLODED VIEW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■ REPLACEMENT PARTS LIST

Notes : ∗ Important safety notice :
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
∗ Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area.)
Parts without these indications can be used for all areas.

●CABINET PARTS

Ref. No.	Part No.	Description
CABINET AND CHASSIS		
1 ⚠ (XA, PA, PE)	SJA121	POWER CORD
2 (XA, PA, PE)	SHR127	SPACER, POWER CORD
3 ⚠ (XA, PA, PE)	SJS601-3	SOCKET
4	SKU11890	CABINET PLATE
5 (EH, EB, EF)	SGPUA60-KH	REAR PANEL
5 (XL)	SGPUA60-KL	REAR PANEL
5 (EK)	SGP7370-1A	REAR PANEL
5 (XA, PA, PE)	SGP7370-2A	REAR PANEL
5 (E)	SGP7370A	REAR PANEL
5 (EG, EI)	SGP7370B	REAR PANEL
6	SHE170-1	SPACER
7	SHE181	HOLDER
8	SMC1287	SHIELD COVER
9	SMC1288	SHIELD COVER
10	SBC666-5	BUTTON, POWER
11	SBC993	BUTTON
12	SBC719-1	BUTTON
13	SKL306	INSULATER
14	SUB153	CONNECTION ROD
18	SGWUA60-KE	FRONT PANEL
19	SGXUA60-KE1	GRILLE ASS'Y
20	SKC2190K99	CABINET BODY
21	SBN1240	KNOB, SELECTOR
22	SBN1241	KNOB VR, VOLUME
23	SBN1242	BUTTON, TONE
24	SJF3061-13A	TERMINAL PLATE
25	SGX7967	ORNAMENT
26 ⚠ (XL)	SJSD16	AC INLET
26 ⚠ (E, EG, EK, XA) (PA, PE, EI) (EH, EB, EF)	SJS9236	AC INLET
27	SJT390	FUSE HOLDER
28	SJF3062-8A	TERMINAL
29	SJF3062-11A	TERMINAL
30	SJF3057-9A	TERMINAL
31	SGX7979	ORNAMENT
32	SGL264	ORNAMENT
33	SUW3115	BRACKET
34	SGXUA60-KE2	GRILLE ASS'Y
35	SGXUA60-KE3	GRILLE ASS'Y
36	ESA33291B	SWITCH
37	ESA33292B	SWITCH
38	ESA33293B	SWITCH
39	VJA7135	CAP
40	SJT30543-V	CONNECTOR(5P)
40	SJT31043-V	CONNECTOR
41	SJT3319	CONNECTOR(3P)
42	SJS5331	SOCKET(3P)
42	SJS5425	SOCKET(4P)
43	SJT783	CONTACT
44	SJS5337	CONNECTOR(3P)
44	SJS5431	SOCKET(4P)
44	SJS5633	CONNECTOR(6P)
45	SJT785	CONTACT
SCREWS.WASHERS AND NUTS		
39	SNE452S	NUT
101	XTB3+20F	TAPPING SCREW
102	XTW3+8T	SCREW
104	XTBS3+12F1	SCREW
105	XTB3+10F	TAPPING SCREW
106	XTB3+8G	SCREW
107	SNE4021	NUT
109	SNE4017-1	TERMINAL
110	SNEA204-1S	TERMINAL
111	SNTA421-1	WASHER
112	XNG4BS	NUT
113	XWC4B	WASHER
114	SNE2129-3	SCREW
115	XTBS3+8JFZ1	SCREW
116	XYN3+F8	SCREW

•ELECTRICAL PARTS

Ref. No.	Part No.	Description
INTEGRATED CIRCUITS		
IC101	M5218P	I.C, EQ AMP
IC102	M5219P	I.C, EQ AMP
IC301	M5218P	I.C, TONE AMP
IC401	SVINJM5532DD	I.C., BUFFER AMP
IC402	SVINJM5532DD	I.C., BUFFER AMP
IC501	AN78M18	I.C., REGULATOR
IC502	AN79M18	I.C., REGULATOR
IC503	M5218P	I.C, BUFFER AMP
IC701	SVIT0RX172	I.C, OPTICAL REC.
IC702	SVIT0RX172	I.C, OPTICAL REC.
IC703	SVIT0RX172	I.C, OPTICAL REC.
IC704	SVIT0TX172	I.C, OPTICAL REC.
IC705	MN74HCU04	I.C, DIGITAL INPUT
IC706	MN74HC00	I.C, DIGITAL INPUT
IC707	MN74HC00	I.C, DIGITAL INPUT
IC708	MN74HC00	I.C, DIGITAL INPUT
IC709	MN74HC00	I.C, DIGITAL INPUT
IC710	MN74HC00	I.C, DIGITAL INPUT
IC711	YM3623B	I.C, DIGITAL SIG.
IC712	MN123Z	I.C., FLIP-FLOP
IC713	DN74LS145	I.C, LED DRIVE
IC714	YM3404B	I.C, DIGITAL FIL.
IC715	MN53010PEH	I.C, CONVERTER
IC801	PCM56P-J	I.C, D/A CON.
IC802	PCM56P-J	I.C, D/A CON.
IC803	PCM56P-J	I.C, D/A CON.
IC804	PCM56P-J	I.C, D/A CON.
IC805	SVINJM5532DD	I.C., BUFFER AMP
IC806	SVINJM5532DD	I.C., BUFFER AMP
IC807	SVINJM5532DD	I.C., BUFFER AMP
IC808	SVINJM5532DD	I.C., BUFFER AMP
IC809	SVINJM5532DD	I.C., BUFFER AMP
IC810	SVINJM5532DD	I.C., BUFFER AMP
IC811	SVIUPD4053BC	I.C, SWITCHING
IC812	SVIUPD4053BC	I.C, SWITCHING
IC901	AN78M05	I.C, REGULATOR
IC902	AN79N05	I.C, REGULATOR
IC903	M5F78M08L	I.C, REGULATOR
IC904	M5F79M08L	I.C, REGULATOR
IC905	M5218P	I.C, BUFFER AMP
TRANSISTORS		
Q101	2SK369-GR	TRANSISTOR
Q102	2SK369-GR	TRANSISTOR
Q103	2SK369-GR	TRANSISTOR
Q104	2SK369-GR	TRANSISTOR
Q301	2SK389BG	TRANSISTOR
Q302	2SK389BG	TRANSISTOR
Q511	2SD1330R	TRANSISTOR
Q512	2SC3311A-Q	TRANSISTOR
Q513	UN4211	TRANSISTOR
Q521	UN4111	TRANSISTOR
Q531	2SC3311A-Q	TRANSISTOR
Q551	2SC3311A-Q	TRANSISTOR
Q552	UN4211	TRANSISTOR
Q701	UN4215	TRANSISTOR
Q702	2SA1309AQS	TRANSISTOR
Q703	UN4211	TRANSISTOR
Q704	UN4211	TRANSISTOR
Q801	2SD1330R	TRANSISTOR
Q802	2SD1330R	TRANSISTOR
Q901	UN4111	TRANSISTOR
Q902	UN4111	TRANSISTOR
Q903	UN4111	TRANSISTOR
Q904	UN4215	TRANSISTOR
Q905	UN4211	TRANSISTOR
Q906	UN4111	TRANSISTOR
Q907	UN4211	TRANSISTOR
DIODES		
D101	MA165	DIODE
D102	MA165	DIODE
D201	MA165	DIODE
D501 ⚠	SVD1SR35200A	RECTIFIER
D502 ⚠	SVD1SR35200A	RECTIFIER
D503	MA165	DIODE
D504	MA165	DIODE
D511	MA167	DIODE
D512	MA165	DIODE
D531	MA4100M	DIODE
D532	LN018397PH	LED ASS'Y
D533	LN018397PH	LED ASS'Y
D534	LN018304P	DIODE, GAASP
D535	MA29WA	DIODE
D541 ⚠	SVD1SR35200A	RECTIFIER
D542 ⚠	SVD1SR35200A	RECTIFIER
D551 ⚠	SVD1SR35200A	RECTIFIER
D552	MA165	DIODE
D701	MA165	DIODE
D703	MA165	DIODE
D705	MA29WA	DIODE
D751	LN013397PH	DIODE, GAASP
D752	LN013397PH	DIODE, GAASP
D753	LN013397PH	DIODE, GAASP
D801	MA165	DIODE
D802	MA165	DIODE
D901	MA165	DIODE
D902	MA165	DIODE
D904	MA165	DIODE
D905	MA165	DIODE
D906	MA4240H	DIODE
D912	MA165	DIODE
VARIABLE RESISTORS		
VR201	EWIPRA028231	V.R, VOLUME
VR202	EWHFNAF20G15	V.R., BALANCE
VR301	EWCSSAF20C15	V.R, BASS
VR302	EWCSSAF20C15	V.R, TREBLE
VR801	EVN38CA00B53	V.R., DISTORTION
VR802	EVN38CA00B53	V.R., DISTORTION
VR803	EVN38CA00B15	V.R, OFFSET
VR804	EVN38CA00B15	V.R, OFFSET
COILS AND TRANSFORMERS		
L1 ⚠	SLQX400-D	COIL
L2 ⚠	SLQX400-D	COIL
L151 (EG, EI)	SLQW471-1P3	CHOKE COIL
L152 (EG, EI)	SLQW471-1P3	CHOKE COIL
L153 (EG, EI)	SLQW471-1P3	CHOKE COIL
L154 (EG, EI)	SLQW471-1P3	CHOKE COIL
L251	ELEPK470KA	COIL FILTER
L252	ELEPK470KA	COIL FILTER
L701	ELEPK470KA	COIL FILTER
L702	ELEPK470KA	COIL FILTER
L703	ELEPK470KA	COIL FILTER
L704	ELEPK470KA	COIL FILTER
L705	ELEPK4R7KA	COIL
L706	ELEPK4R7KA	COIL
L707	ELEPK4R7KA	COIL
L708	ELEPK4R7KA	COIL
L709	ELEPK4R7KA	COIL
L710	ELEPK4R7KA	COIL
L711	ELEPK4R7KA	COIL
L712	ELEPK4R7KA	COIL
L801	ELEY471KA	COIL
L802	ELEY471KA	COIL
L803	ELEPK4R7KA	COIL
L805	ELEPK4R7KA	COIL
L901	ELEPK4R7KA	COIL
T1 (E, EH, EB) (EF, EG, EI) ⚠	SLT5L292-W	POWER TRANSFORMER
T1 ⚠ (EK, XL, XA) (PA, PE)	SLT5L293-W	POWER TRANSFORMER
T701	SLZS10VN17-1	COIL
T702	SLQB20G-1P	CHOCK COIL
T703	SLQB20G-1P	CHOCK COIL
COMPONENT COMBINATIONS		
Z701	EXCEMT103DC	CNMBINATION COM
Z702	EXCEMT103DC	CNMBINATION COM
Z703	EXCEMT103DC	CNMBINATION COM
Z704	EXCEMT103DC	CNMBINATION COM
Z705	EXCEMT103DC	CNMBINATION COM
Z706	EXCEMT103DC	CNMBINATION COM
Z707	EXCEMT103DC	CNMBINATION COM
Z708	EXCEMT103DC	CNMBINATION COM
Z709	EXCEMT103DC	CNMBINATION COM
Z901	EXCEMT103DC	CNMBINATION COM
Z902	EXCEMT103DC	CNMBINATION COM
OSCILLATORS		
X701	SVQAT1923	CRYSTAL OSCILLATOR
FUSES		
F1 ⚠	XBA2C16TB0	FUSE 250V, A1.6A
F2 ⚠	XBA2C04TB0	FUSE , T0.4A250V
SWITCHES		
S1	ESB99714V	SW
S2 ⚠ (EK, XL, X, XA) (PA, PE)	SSR187-1	SW, VOLTAGE SELECTOR
S101 ⚠	SSH1235	SW, PHONO
S201	ESA26132	SW, INPUT
S202	ESA26134	SW, REC
S203	ESA26133	SW, DIRECT
S204	SSH1236	SW, AUX
S205	SSH2125	SW, MUTING
S206	SSH2125	SW, LOUDNESS
S207	SSH2135	SW, SUBSONIC
S301	SSH2135	SW, TONE
S701	SSS184	SLIDE SWITCH
S751	SSH4114	PUSH SWITCH
S752	SSH4114	PUSH SWITCH
S753	SSH4114	PUSH SWITCH
S754	SSH4114	PUSH SWITCH
RELAYS		
RLY201	SFDYG5A237P	RELAY
RLY401	SFDYG5A237P	RELAY
RLY551	SSY137	RELAY
RLY801	SFDYG5A237P	RELAY
RLY802	SFDYG5A237P	RELAY

•PACKING PARTS

Ref. No.	Part No.	Description
PACKING MATERIAL		
P1 (E, EG, EK, XL) (XA, PA, PE) (EI, EH, EB)	SPG6236	CARTON BOX
P1 (EF)	SPG6241	PACKING CASE
P2	SPS4459-5	PAD
P3	SPS4460-3	PAD
P4	SPS4613-1	PAD
P5	SPP723	PROTECTION COVER
ACCESSORIES		
A1 ⚠ (XA)	SJP5213	PLUG
A1 (E, EI, EB, EH) (EF)	SQF13213	INSTRUCTION BOOK
A1 (EG)	SQF13214	INSTRUCTION BOOK
A1 (XA)	SQF13215	INSTRUCTION BOOK
A1 (PA, PE)	SQF13216	INSTRUCTION BOOK
A1 (XL)	SQF13217	INSTRUCTION BOOK
A1 (EK)	SQF13325	INSTRUCTION BOOK
A3 (XA)	SJP5215	PLUG
A4 (XA)	SPPH16	POLYETHYLENE BAG
A5 ⚠ (PA, PE)	RJP120ZBS-H	AC PLUG ADAPTOR
A6 ⚠ (E, EG, EI, EH) (EB, EF)	SFDAC05E03	POWER CORD
A7 ⚠ (EK)	SFDAC05G02	POWER CORD
A7 ⚠ (XL)	SJA173	POWER CORD
A8	SJP9205-3Y	SHORT PIN
A9	SJPD18	OUTPUT CORD

RESISTORS & CAPACITORS

Notes : * Important safety notice :
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area.)
Parts without these indications can be used for all areas.

Numbering System of Resistor

Example:

ERD	25	F	J	102
Type	Wattage (1/4W)	Shape	Tolerance	Value (1KΩ)
ERX	2	AN	J	471
Type	Wattage (2W)	Shape	Tolerance	Value (470Ω)

Numbering System of Capacitor

Example:

ECKD	1H	102	Z	F
Type	Voltage (50V)	Value (0.001μF)	Tolerance	Peculiarity
ECEA	50	M	330	
Type	Voltage (50V)	Pecliarity	Value (33μF)	

- ● Capacity are in microfarads (μF) unless specified otherwise, P=Pico-farads (pF) F=Farads (F).
- ● Resistance are in ohms (Ω), unless specified otherwise, 1K=1,000Ω, 1M=1,000kΩ

Resistor Type	Wattage		Tolerance
ERD : Carbon	10 : 1/8W	12 : 1/2W	J : ±5%
ERG : Metal Oxide	14 : 1/4W	25 : 1/4W	F : ±1%
ERQ : Fuse Type Metal	1A : 1W	18 : 1/8W	G : ±2%
ERX : Metal Film	S2 : 1/4W	S1 : 1/2W	J : ±5%
ERD L : Carbon (chip)	2F : 1/4W	50 : 1/2W	K : ±10%
ERO K : Metal Film (chip)	2A : 2W	3A : 3W	M : ±20%
ERC : Solid	6G : 1/10W	8G : 1/8W	
ERF : Incombustible Box-Shaped			
ERM : Wire-Wound			
RRJ : Cip Resistor			
ERJ : Cip Resistor			

Capacitor Type	Voltage		Tolerance
ECE : Electrolytic	0J : 6.3V	1A : 10V	K : ±10%
ECCD : Ceramic	1C : 16V	1E : 25V	M : ±20%
ECKD : Ceramic Capacitor	1H : 50V	1V : 35V	Z : $^{+80}_{-20}$ %
ECQM : Poyester	50 : 50V	05 : 50V	
ECQP : Polypropylene	2H : 500V	2A : 100V	J : ±5%
ECG : Ceramic	1 : 100V	1J : 63V	G : ±2%
ECEA N : Non Polar Electrolytic	KC : 400V AC		F : ±1%
QCU : Ceramic (Chip Type)	KC : 125V AC		C : ±0.25pF
ECUX : Ceramic (Chip Type)	(UL)		D : ±0.5pF
ECF : Semiconductor			
EECW : Liquid electrolyte double layer capacitor			

Ref. No.	Part No.	Value.
RESISTORS(VALUE,WATTAGE)		
R101	ERDS2TJ473	47K 1/4
R102	ERDS2TJ473	47K 1/4
R103	ERDS2TJ221	220 1/4
R104	ERDS2TJ221	220 1/4
R105	ERDS2TJ220	22 1/4
R106	ERDS2TJ220	22 1/4
R107	ERD25FJ272	2.7K 1/4
R108	ERD25FJ272	2.7K 1/4
R109	ERD25FJ272	2.7K 1/4
R110	ERD25FJ272	2.7K 1/4
R111	ERDS2TJ101	100 1/4
R112	ERDS2TJ101	100 1/4
R113	ERD25FJ272	2.7K 1/4
R114	ERD25FJ272	2.7K 1/4
R115	ERDS2TJ121	120 1/4
R116	ERDS2TJ121	120 1/4
R117	ERDS2TJ8R2	8.2 1/4
R118	ERDS2TJ8R2	8.2 1/4
R119	ER0S2TKG6802	68K 1/4
R120	ER0S2TKG6802	68K 1/4
R121	ER0S2TKF5231	5.23K 1/4
R122	ER0S2TKF5231	5.23K 1/4
R123	ERDS2TJ561	560 1/4
R124	ERDS2TJ561	560 1/4
R125	ERDS2TJ121	120 1/4
R126	ERDS2TJ121	120 1/4
R127	ERDS2TJ101	100 1/4
R128	ERDS2TJ101	100 1/4
R129	ERDS2TJ331	330 1/4
R130	ERDS2TJ331	330 1/4
R131	ERDS2TJ102	1K 1/4
R132	ERDS2TJ102	1K 1/4
R133	ERDS2TJ332	3.3K 1/4
R134	ERDS2TJ332	3.3K 1/4
R141	ERDS2TJ224	220K 1/4
R142	ERDS2TJ224	220K 1/4
R151	ERDS2TJ222	2.2K 1/4
(EG, EI)		
R152	ERDS2TJ222	2.2K 1/4
(EG, EI)		
R153	ERDS2TJ222	2.2K 1/4
(EG, EI)		
R154	ERDS2TJ222	2.2K 1/4
(EG, EI)		
R201	ERDS2TJ223	22K 1/4
R202	ERDS2TJ223	22K 1/4
R203	ERDS2TJ332	3.3K 1/4
R204	ERDS2TJ332	3.3K 1/4
R205	ERDS2TJ183	18K 1/4
R206	ERDS2TJ183	18K 1/4
R207	ERDS2TJ223	22K 1/4
R208	ERDS2TJ223	22K 1/4
R209	ERDS2TJ102	1K 1/4
R210	ERDS2TJ102	1K 1/4
R211	ERDS2TJ824	820K 1/4
R212	ERDS2TJ824	820K 1/4
R213	ERDS2TJ472	4.7K 1/4
R214	ERDS2TJ472	4.7K 1/4
R215	ERDS2TJ124	120K 1/4
R216	ERDS2TJ124	120K 1/4
R251	ERDS2TJ471	470 1/4
(EG, EI)		
R252	ERDS2TJ471	470 1/4
(EG, EI)		
R253	ERDS2TJ471	470 1/4
(EG, EI)		
R254	ERDS2TJ471	470 1/4
(EG, EI)		
R255	ERDS2TJ471	470 1/4
(EG, EI)		
R256	ERDS2TJ471	470 1/4
(EG, EI)		
R257	ERDS2TJ471	470 1/4
R258	ERDS2TJ471	470 1/4
R259	ERDS2TJ471	470 1/4
R260	ERDS2TJ471	470 1/4
R261	ERDS2TJ471	470 1/4
R262	ERDS2TJ471	470 1/4
R263	ERDS2TJ471	470 1/4
R264	ERDS2TJ471	470 1/4
R265	ERDS2TJ471	470 1/4
R266	ERDS2TJ471	470 1/4
R267	ERDS2TJ471	470 1/4
R268	ERDS2TJ471	470 1/4
R269	ERDS2TJ471	470 1/4
R270	ERDS2TJ471	470 1/4
R301	ERDS2TJ101	100 1/4
R302	ERDS2TJ101	100 1/4
R303	ERDS2TJ473	47K 1/4
R304	ERDS2TJ473	47K 1/4
R305	ERDS2TJ472	4.7K 1/4
R306	ERDS2TJ472	4.7K 1/4
R307	ERDS2TJ472	4.7K 1/4
R308	ERDS2TJ472	4.7K 1/4
R309	ERDS2TJ472	4.7K 1/4
R310	ERDS2TJ472	4.7K 1/4
R311	ERDS2TJ221	220 1/4
R312	ERDS2TJ221	220 1/4
R313	ERD25FJ821	820 1/4
R314	ERD25FJ821	820 1/4
R315	ERD25FJ472	4.7K 1/4
R316	ERD25FJ472	4.7K 1/4
R317	ERDS2TJ392	3.9K 1/4
R318	ERDS2TJ392	3.9K 1/4
R319	ERDS2TJ223	22K 1/4
R320	ERDS2TJ223	22K 1/4
R321	ERDS2TJ102	1K 1/4
R322	ERDS2TJ102	1K 1/4
R323	ERDS2TJ562	5.6K 1/4
R324	ERDS2TJ562	5.6K 1/4
R325	ERDS2TJ223	22K 1/4
R326	ERDS2TJ223	22K 1/4
R327	ERDS2TJ224	220K 1/4
R328	ERDS2TJ224	220K 1/4
R401	ERD25FJ101	100 1/4
R402	ERD25FJ101	100 1/4
R403	ERDS2TJ473	47K 1/4
R404	ERDS2TJ473	47K 1/4
R405	ERD25FJ101	100 1/4
R406	ERD25FJ101	100 1/4
R407	ERD25FJ331	330 1/4
R408	ERD25FJ331	330 1/4
R409	ERD25TJ102	1K 1/4
R410	ERD25TJ102	1K 1/4
R411	ERD25FJ332	3.3K 1/4
R412	ERD25FJ332	3.3K 1/4
R413	ERDS2TJ562	5.6K 1/4
R414	ERDS2TJ562	5.6K 1/4
R501	ERDS2TJ332	3.3K 1/4
R502	ERDS2TJ332	3.3K 1/4
R503	ERDS2TJ333	33K 1/4
R504	ERDS2TJ153	15K 1/4
R505	ERDS2TJ330	33 1/4
R506	ERDS2TJ330	33 1/4
R511	ERDS2TJ123	12K 1/4
R512	ERDS2TJ472	4.7K 1/4
R513	ERDS2TJ333	33K 1/4
R514	ERDS2TJ334	330K 1/4
R515	ERD25FJ471	470 1/4
R516	ERDS2TJ332	3.3K 1/4
R521	ERDS2TJ392	3.9K 1/4
R522	ERD25FJ471	470 1/4
R532	ERDS2TJ560	56 1/4
R533	ERDS2TJ123	12K 1/4
R534	ERDS2TJ101	100 1/4
R551	ERD2FCG220	22 1/4
R552	ERDS2TJ332	3.3K 1/4
R553	ERDS2TJ333	33K 1/4
R701	ERDS2TJ101	100 1/4
R702	ERDS2TJ101	100 1/4
R703	ERDS2TJ101	100 1/4
R704	ERDS2TJ221	220 1/4
R705	ERDS2TJ221	220 1/4
R708	ERDS2TJ221	220 1/4
R709	ERDS2TJ221	220 1/4
R710	ERDS2TJ221	220 1/4
R711	ERDS2TJ221	220 1/4
R712	ERDS2TJ221	220 1/4
R714	ERDS2TJ473	47K 1/4
R715	ERDS2TJ473	47K 1/4
R716	ERDS2TJ473	47K 1/4
R717	ERDS2TJ473	47K 1/4
R718	ERDS2TJ473	47K 1/4
R719	ERDS2TJ473	47K 1/4
R720	ERDS2TJ473	47K 1/4
R721	ERDS2TJ750	75 1/4
R722	ERDS2TJ750	75 1/4
R723	ERDS2TJ393	39K 1/4
R724	ERDS2TJ393	39K 1/4
R725	ERDS2TJ102	1K 1/4
R726	ERDS2TJ102	1K 1/4
R727	ERDS2TJ750	75 1/4
R728	ERDS2TJ822	8.2K 1/4
R730	ERDS2TJ221	220 1/4
R731	ERDS2TJ221	220 1/4
R732	ERDS2TJ221	220 1/4
R733	ERDS2TJ221	220 1/4
R734	ERDS2TJ221	220 1/4
R735	ERDS2TJ221	220 1/4
R736	ERDS2TJ221	220 1/4
R737	ERDS2TJ221	220 1/4
R738	ERDS2TJ221	220 1/4
R739	ERDS2TJ221	220 1/4
R740	ERDS2TJ221	220 1/4
R741	ERDS2TJ221	220 1/4
R742	ERDS2TJ221	220 1/4
R743	ERDS2TJ221	220 1/4
R744	ERDS2TJ221	220 1/4
R745	ERDS2TJ221	220 1/4
R746	ERDS2TJ151	150 1/4
R747	ERDS2TJ102	1K 1/4
R748	ERDS2TJ824	820K 1/4
R749	ERDS2TJ123	12K 1/4
R750	ERDS2TJ223	22K 1/4
R751	ERDS2TJ332	3.3K 1/4
R752	ERDS2TJ473	47K 1/4
R753	ERDS2TJ224	220K 1/4
R754	ERDS2TJ181	180 1/4
R801	FSR25TJ100T	
R802	FSR25TJ100T	
R805	FSR25TJ330T	
R806	FSR25TJ330T	
R809	ERD25TJ102	1K 1/4
R810	ERD25TJ102	1K 1/4
R811	ERD25FJ332	3.3K 1/4
R812	ERD25FJ332	3.3K 1/4
R813	ERD25FJ332	3.3K 1/4
R814	ERD25FJ332	3.3K 1/4
R815	ERD25FJ332	3.3K 1/4
R816	ERD25FJ332	3.3K 1/4
R817	ERD25FJ332	3.3K 1/4
R818	ERD25FJ332	3.3K 1/4
R819	ERD25FJ332	3.3K 1/4
R820	ERD25FJ332	3.3K 1/4
R821	FSR25TJ562T2	
R822	FSR25TJ562T2	
R823	ERD25FJ472	4.7K 1/4
R824	ERD25FJ472	4.7K 1/4
R825	ERD25FJ272	2.7K 1/4
R826	ERD25FJ272	2.7K 1/4
R827	ER0S2TKF6801	6.8K 1/4
R828	ER0S2TKF6801	6.8K 1/4
R829	ER0S2TKF6801	6.8K 1/4
R830	ER0S2TKF6801	6.8K 1/4
R831	ER0S2TKF6801	6.8K 1/4
R832	ER0S2TKF6801	6.8K 1/4
R833	ER0S2TKF6801	6.8K 1/4
R834	ER0S2TKF6801	6.8K 1/4
R835	ER0S2TKF6801	6.8K 1/4
R836	ER0S2TKF6801	6.8K 1/4
R837	FSR25TG392T2	
R838	FSR25TG392T2	
R839	FSR25TJ333T2	
R840	FSR25TJ333T2	
R841	FSR25TJ152T2	
R842	FSR25TJ152T2	
R843	ERD25TJ104	100K 1/4
R844	ERD25TJ104	100K 1/4
R845	FSR25TG272T2	
R846	FSR25TG272T2	
R847	FSR25TG332T2	
R848	FSR25TG332T2	
R849	FSR25TG332T2	
R850	FSR25TG332T2	
R851	ERD25TJ104	100K 1/4
R852	ERD25TJ104	100K 1/4
R853	ERD25FJ821	820 1/4
R854	ERD25FJ821	820 1/4
R855	ERDS2TJ823	82K 1/4
R856	ERDS2TJ823	82K 1/4
R857	ERDS2TJ823	82K 1/4
R858	ERDS2TJ823	82K 1/4
R861	ERDS2TJ102	1K 1/4
R862	ERDS2TJ102	1K 1/4
R863	ERDS2TJ224	220K 1/4
R864	ERDS2TJ224	220K 1/4
R865	ERDS2TJ564	560K 1/4
R867	ERDS2TJ564	560K 1/4
R868	ERDS2TJ564	560K 1/4
R901	ERX2ANJ120	12 2
R902	ERD2FCG470	47 1/4
R903	ERDS2TJ680	68 1/4
R904	ERDS2TJ330	33 1/4
R905	ERDS2TJ333	33K 1/4
R906	ERDS2TJ153	15K 1/4
R907	ERDS2TJ332	3.3K 1/4
R908	ERDS2TJ332	3.3K 1/4
R910	ERD25FJ271	270 1/4
R911	ERD25FJ271	270 1/4
R912	ERDS2TJ272	2.7K 1/4
R921	ERDS2TJ223	22K 1/4
R922	ERDS2TJ822	8.2K 1/4
R923	ERDS2TJ822	8.2K 1/4
CAPACITORS(VALUE,VOLTAGE)		
C1 ⚠	ECKWNS103ZVS	0.01
C101	ECQM1H103JZ	0.01 50
C102	ECQM1H103JZ	0.01 50
C103	ECCD1H820K	82P 50
C104	ECCD1H820K	82P 50
C105	ECKD1H222MD	0.0022 50
C106	ECKD1H222MD	0.0022 50
C107	ECEA0JPS332E	3300 6.3
C108	ECEA0JPS332E	3300 6.3
C109	ECQM1H473JZ	0.047 50
C110	ECQM1H473JZ	0.047 50
C111	ECQB1H103JZ	0.01 50
C112	ECQB1H103JZ	0.01 50
C113	ECQM1H392JZ	0.0039 50
C114	ECQM1H392JZ	0.0039 50
C115	ECEA1EPN3R3	3.3 25
C116	ECEA1EPN3R3	3.3 25
C117	ECEA1EK3R3	3.3 25
C118	ECEA1EK3R3	3.3 25
C119	ECQM1H472JZ	0.0047 50
C120	ECQM1H472JZ	0.0047 50
C151	ECCD1H820K	82P 50
(EG, EI)		
C152	ECCD1H820K	82P 50
(EG, EI)		
C153	ECCD1H820K	82P 50
(EG, EI)		
C154	ECCD1H820K	82P 50
(EG, EI)		
C155	ECCD1H330K	33P 50
C156	ECCD1H330K	33P 50
C201	ECQM1H124JZ	0.12 50
C202	ECQM1H124JZ	0.12 50
C203	ECQV1H184JZ	0.18 50
C204	ECQV1H184JZ	0.18 50
C251	ECCD1H181K	180P 50
C252	ECCD1H181K	180P 50
C253	ECCD1H181K	180P 50
C254	ECCD1H181K	180P 50
C255	ECCD1H181K	180P 50
C256	ECCD1H181K	180P 50
C257	ECCD1H181K	180P 50
C258	ECCD1H181K	180P 50
C259	ECCD1H181K	180P 50
C260	ECCD1H181K	180P 50
C261	ECCD1H181K	180P 50
C262	ECCD1H181K	180P 50
C263	ECCD1H181K	180P 50
C264	ECCD1H181K	180P 50
C265	ECCD1H181K	180P 50
C266	ECCD1H181K	180P 50
C267	ECCD1H181K	180P 50
C268	ECCD1H181K	180P 50
C269	ECCD1H181K	180P 50
C270	ECCD1H181K	180P 50
C301	ECCD1H330K	33P 50
C302	ECCD1H330K	33P 50
C303	ECCD1H820K	82P 50
C304	ECCD1H820K	82P 50
C305	ECKD1H222MD	0.0022 50
C306	ECKD1H222MD	0.0022 50
C307	ECEA1HPS2R2	2.2 50
C308	ECEA1HPS2R2	2.2 50
C309	ECCD1H390K	39P 50
C310	ECCD1H390K	39P 50
C311	ECEA1CBH470E	47 16
C312	ECEA1CBH470E	47 16
C313	ECQV1H823JZ	0.082 50
C314	ECQV1H823JZ	0.082 50
C315	ECQB1H153JZ	0.015 50
C316	ECQB1H153JZ	0.015 50
C317	ECQB1H183JZ	0.018 50
C318	ECQB1H183JZ	0.018 50
C319	ECQB1H182JZ	0.0018 50
C320	ECQB1H182JZ	0.0018 50
C321	ECCD1H101K	100P 50
C322	ECCD1H101K	100P 50
C401	ECCD1H330K	33P 50
C402	ECCD1H330K	33P 50
C403	ECEA1CBH470E	47 16

Ref. No.	Part No.	Value.
C404	ECEA1CBH470E	47 16
C405	ECEA1EU221	220 25
C406	ECEA1EU221	220 25
C407	ECEA1CPS100	10 16
C408	ECEA1CPS100	10 16
C501	ECES1VV332XM	3300 35
C502	ECES1VV332XM	3300 35
C503	ECEA1CKS100	10 16
C504	ECEA1CKS100	10 16
C505	ECEA1EK3R3	3.3 25
C506	ECEA1EK3R3	3.3 25
C507	ECQV1H104JZ	0.1 50
C508	ECQV1H104JZ	0.1 50
C511	ECEA1HK4R7	4.7 50
C512	ECEA1CU101	100 16
C519	ECKD1H103PF	0.01 50
C521	ECFR1E104ZF	0.1 25
C531	ECEA1EU101	100 25
C540 ⚠	ECKD2H103PE	0.01 500
C540	ECQE2104KS	0.1 250
C541	ECES1CV682RM	6800 16
C542	ECES1CV682RM	6800 16
C550 ⚠	ECKD2H103PE	0.01 500
C550	ECQE2104KS	0.1 250
C551 ⚠	ECEA1CU471	470 16
C552	ECFR1E104ZF	0.1 25
C553	ECKD1H103PF	0.01 50
C559	ECKD1H103PF	0.01 50
C701	ECEA0JPU101	100 6.3
C702	ECEA0JPU101	100 6.3
C703	ECEA0JPU101	100 6.3
C704	ECEA0JPU101	100 6.3
C705	ECEA0JPU101	100 6.3
C706	ECQV1H104JZ	0.1 50
C707	ECQV1H104JZ	0.1 50
C708	ECQV1H104JZ	0.1 50
C709	ECFR1E104ZF	0.1 25
C710	ECFR1E104ZF	0.1 25
C711	ECFR1E104ZF	0.1 25
C712	ECFR1E104ZF	0.1 25
C713	ECFR1E104ZF	0.1 25
C714	ECQV1H104JZ	0.1 50
C715	ECQV1H104JZ	0.1 50
C716	ECQV1H104JZ	0.1 50
C717	ECQV1H104JZ	0.1 50
C718	ECQV1H104JZ	0.1 50
C719	ECQV1H104JZ	0.1 50
C720	ECQV1H104JZ	0.1 50
C721	ECFR1E104ZF	0.1 25
C722	ECFR1E104ZF	0.1 25
C723	ECFR1E104ZF	0.1 25
C724	ECFR1E104ZF	0.1 25
C725	ECFR1E104ZF	0.1 25
C726	ECFR1E104ZF	0.1 25
C727	ECFR1E104ZF	0.1 25
C728	ECFR1E104ZF	0.1 25
C729	ECFR1E104ZF	0.1 25
C730	ECEA0JPU101	100 6.3
C731	ECQM1H103JZ	0.01 50
C732	ECCD1H100KC	10P 50
C733	ECCD1H100KC	10P 50
C734	ECEA1EK3R3B	3.3 25
C735	ECEA1CKS100	10 16
C736	ECQV1H104JZ	0.1 50
C740	ECKD1H103PF	0.01 50
C743	ECFR1E104ZF	0.1 25
C801	ECQP2A271JSP	270P 100
C802	ECQP2A271JSP	270P 100
C807	ECCD1H390K	39P 50
C808	ECCD1H390K	39P 50
C809	ECQP2A103JSP	0.01 100
C810	ECQP2A103JSP	0.01 100
C811	ECQP2A182GSP	0.0018 100
C812	ECQP2A182GSP	0.0018 100
C813	ECQP2A472GSP	0.0047 100
C814	ECQP2A472GSP	0.0047 100
C815	ECQP2A221GSP	220P 100
C816	ECQP2A221GSP	220P 100
C817	ECEA1CBH470E	47 16
C818	ECEA1CBH470E	47 16
C819	ECQP1182JZ	0.0018 100
C820	ECQP1182JZ	0.0018 100
C901	ECEA0JPU101	100 6.3
C902	ECEA0JPU101	100 6.3
C903	ECEA0JPU101	100 6.3
C904	ECEA0JPU101	100 6.3
C905	ECEA1CPS100	10 16
C906	ECEA1CPS100	10 16
C907	ECEA1CPS100	10 16
C908	ECEA1CPS100	10 16
C909	ECQV1H104JZ	0.1 50
C910	ECQV1H104JZ	0.1 50
C911	ECEA1APH101E	100 10
C912	ECEA1APH101E	100 10
C913	ECEA1APH101E	100 10
C914	ECEA1APH101E	100 10
C915	ECEA1APH101E	100 10
C916	ECEA1APH101E	100 10
C920	ECKD1H103PF	0.01 50
C923	ECEA1HK3R3	3.3 50

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